

EPA REGISTRATION NUMBER 2724-446 – VOL. 1

APPROVED FOR TECHNICALS SUPPORT

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EFFICACY

BY:

2724-UVA

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FILE *IN JACKET*
NOT REVIEWED

CORPORATE HEADQUARTERS

TEL. 708.699.1616

Document Processing Desk (NOTIF)
Office of Pesticide Programs - H7504C
U.S. Environmental Protection Agency
401 M Street SW
Washington D.C. 20460-0001

Attn: Mr. Phil Hutton (PM 18)

**RE: Zoecon RF-437 Mosquito Growth Regulator
(EPA Reg. No. 2724-446)
Notification of Additional Brand Names**

Dear Mr. Hutton:

This correspondence is to notify the Agency of the following additional brand names related to the above-referenced product:

1. VET-KEM® Siphotrol® Biorational Yard Spray Concentrate
2. ZODIAC® Step 3 Pet Protection Program Fleatrol® Yard Spray Concentrate.

Please contact me at (708) 390-3007 if you have any questions.

Yours Sincerely,
SANDOZ AGRO, Inc.

SR Spaulding
Steven R. Spaulding
Sr. Regulatory Specialist

NOT REVIEWED

In Accordance with PR Notice 82-2
Based on Draft Labeling Dated

November 1, 95

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

SANDOZ AGRO, INC.

1300 EAST TOUHY AVENUE, DES PLAINES, ILLINOIS 60018-3300



*Rec'd
4/27/95 WHJ*

CORPORATE HEADQUARTERS

TEL. 708.699.1616

Document Processing Desk (NOTIF)
Office of Pesticides Programs - H7504C
U.S. Environmental Protection Agency
401 M Street SW
Washington D.C. 20460-0001

April 24, 1995

Attn: Mr. Willie Nelson
Biopesticides and Pollution Prevention Division

**Subject: Zoecon RF-437 Mosquito Growth Regulator
(EPA Reg. No. 2724-446)
Notification to Clarify Mixing Directions & Change of Company
Name and Address.**

Dear Mr. Nelson:

Attached is a notification to clarify mixing instructions on the RF-437 product intended only for outdoor treatment of fleas. The following changes have been highlighted on the enclosed label:

1. "Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf" has been changed to **"Apply 0.75 ounces of RF-437 in 15 gallons of water to every 750 square feet of residential turf."** The ratio between RF-437 and water and treated square feet is the same and the rate of application of the finished product to the ground is equivalent in both cases.
2. "When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure" has been changed to **"When using a hose-end sprayer, place 0.75 ounces of RF-437 in bottle, add 6 ounces of water and apply at low pressure"**. This change more clearly defines the mixing directions.
3. The Directions for Use have been numbered and the order has been changed in order to make this label easier to understand and use by the customers.

4. The name and address has been changed to reflect the merger of Zoecon and Sandoz.
5. The revised label consists of 3 pages which contains the same information that appears on the column-formatted EPA-stamped approved version which is enclosed for comparison. The font size has also been increased in order to make the revised label easier to read.

Please contact me at (708) 390-3007 if you have any questions.

Yours Sincerely,
SANDOZ AGRO, Inc.

A handwritten signature in black ink, appearing to read "SR Spaulding", with a stylized flourish at the end.

Steven R. Spaulding
Sr. Regulatory Specialist

cc: A. Breaux

(A) United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460 Application for Pesticide:	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number <div style="font-size: 24pt; font-weight: bold; color: red;">200520</div>

Section I

1. Company/Product Number 2724-446	2. EPA Product Manager PHIL HUTTON	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) ZOECON RF-437 MOSQUITO GROWTH REGULATOR	PM# 18	
5. Name and Address of Applicant (Include ZIP Code) SANDOZ AGRO, INC. 1300 E. TOUHY AVE. DES PLAINES, IL 60018 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of Additional Brand Names.

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container 0.75 oz. - 55 gal.		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner in Which Label Is Affixed To Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Other (_____) <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Steven R. Spaulding	Title Sr. Registration Specialist	Telephone No. (Include Area Code) (708) 390-3007
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Sr. Registration Specialist	
4. Typed Name Steven R. Spaulding	5. Date May 12, 1995	

[] optional wording

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors

Controls pre-adult fleas (larvae) up to 8 weeks

Biorational [approach to] flea control outdoors

Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-
3,7,11-trimethyl-2,4-dodecadienoate] . 20.0%

INERT INGREDIENTS: 80.0%

TOTAL: 100.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "**Guide to Product Application**" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has **no effect when applied to pupae or adult mosquitoes**. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see **Guide to Product Application**.

METHODS OF APPLICATION

Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to **Guide to Product Application**.

APPLICATION SITES

Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety israeliensis (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from **24:1** to **50:1** (volume/volume). For example, to prepare a **50:1** tank mix, add **1** gallon of RF-437 to **50** gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: (1) When using a hose-end sprayer, place **0.75 ounces** of RF-437 in bottle, add **6 ounces** of water and apply at low pressure. (2) Make sure to apply at **0.75 ounces** of RF-437 per **15** gallons of water. (3) Apply **0.75 ounces** of RF-437 in **15** gallons of water to every **750** square feet of residential turf. (4) Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches. (5) If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used for initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Sandoz Agro, Inc.
1300 E. Touhy Ave.
Des Plaines, IL 60013

EPA Reg. No. 2724-446
0495-A

EPA Est
Made in U.S.A.

ACCEPTED

SEP 21 1994

[] optional wording

Under the Federal Insecticide, Fungicide, and
Rodenticide Act, as amended, for the
pesticide registered under

ZOECON RF-437 2724-446

MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-

20.0%

INERT INGREDIENTS:.....

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulation such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product] [brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
0793-E

EPA Est
Made in U.S.A.

SANDOZ AGRO, INC.

1300 EAST TOUHY AVENUE, DES PLAINES, ILLINOIS 60018-3300



CORPORATE HEADQUARTERS

TEL. 708.699.1616

Environmental Protection Agency
Biopesticides and Pollution Prevention Division (7501W)
Document Processing Desk
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attn: Mr. Willie Nelson

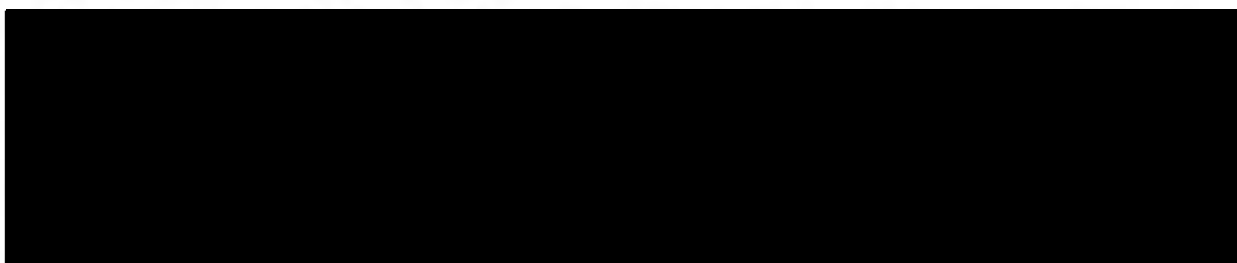
February 21, 1995

Subject: [REDACTED] - Unidentified Inert Ingredient in Altosid
Liquid Larvicide Concentrate - EPA Reg. No. : 2724-446
Response to your correspondence of January 25, 1995.

Dear Mr. Nelson:

In a letter from Janet Anderson dated January 25, 1995, we were asked to provide the chemical identity, CAS No. and any other information we have related to the inert ingredient [REDACTED] which is designated on the Confidential Statement of Formula as a component in Altosid Liquid Larvicide Concentrate.

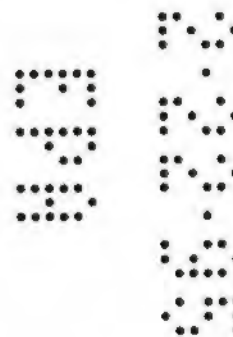
The CAS No. for [REDACTED] An MSDS from the Department of Labor is included for your information.



Please contact me at (708) 390-3007 if you have any questions.
Yours Sincerely,

SANDOZ AGRO, Inc.

SR Spaulding
Steven R. Spaulding
Senior Registration Specialist



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUL 08 1994

c/o Ms. Ada M. Breaux
Sandoz Agro, Inc.
1300 E. Touhy Avenue
Des Plaines, Illinois 60018

Dear Ms. Breaux:

Subject: Zoecon RF-372 Collar *HHG*
EPA Reg. No. 27274-46
Your submission of July 14, 1994

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is not acceptable, for the reasons given below.

1. All of the proposed alternate formulations contain [REDACTED] for which we do not know the chemical composition, and each alternate formulation contain different pigment for which we do not have a chemical identity.

2. Zoecon must have the supplier of [REDACTED] pigments [REDACTED] submit to the Agency complete chemical composition of the above components including chemical names, CAS Reg. No.'s and percentages of each component if mixture and Material Safety Data Sheet and Health Effects.

3. The Confidential Statements of Formula may not be approved until the chemical identity information has been received and found acceptable.

Inert ingredient information may be entitled to confidential treatment

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

-2-

4. Additionally, all methoprene products are under the auspices of the Methoprene R.E.D., and as such, must comply with the labeling requirements most suitable for the product.

Should you have any questions , feel free to contact Mr Willie H. Nelson at (703) 305-6601, who is handling this product.

Sincerely yours,

Willie H. Nelson
for Phil Hutton, PM-18
Insecticide Rodenticide Branch
Registration Division (7505C)

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

14 July 1993

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
Document Processing Desk (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: **Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446**

**Amendment to Include Additional Use Sites for Mosquito Vector Control,
to Include Use for Fleas in Lawns, Tank Mixing, and Clarification of Salt Marsh
Language.**

Dear Mr. Hutton:

By way of this application, we propose three actions:

1. Use of Zoecon RF-437 in irrigated croplands after flooding to control mosquito emergence.

Examples of such sites include vineyards, rice fields, date palm orchards, fruit and nut orchards and berry fields and bogs. Mosquitos develop in the irrigation water in these areas. These types of mosquito vector control uses are no longer considered food uses (Reregistration Eligibility Document for methoprene, List A, Case 0030, page 10). Application to irrigation water in rice fields is currently approved for this product. However, we have modified the language on the label regarding rice since currently-approved language relates to rice-growing practices that are not applicable in all areas.

Changes related to the new use sites are highlighted in yellow on the label.

2. Use of Zoecon RF-437 on lawns for flea control.

This product is a microencapsulated product allowing slow-release and protection of (S)-methoprene outdoors. Enclosed are efficacy data supporting the outdoor use for flea control:

MRID NumberStudy428550 $\phi\phi$ 1

Meola, R., Donahue, B. Efficacy of Juvenoids in Soil-filled Peat Pots
for Outdoor Control of Cat Fleas. Texas A & M University. Compound
Screening. Unpublished. 8 pages.

The flea efficacy data support use at a rate of one fluid ounce per 1000 square feet of yard (6 milligrams of active ingredient per square foot of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene.

Zoecon RF-437 is the same as A.L.L. except it contains 20% (S)-methoprene. Therefore, since RF-437 is more concentrated, it is a more economical product. When we market the flea product, we'll delete the mosquito control directions and claims.

Changes related to the flea use are highlighted in pink.

3. Tank mixing Zoecon RF-437 with Teknar HP-D, EPA Reg. No. 2724-365.

Changes related to tank mixing are highlighted in blue on the label.

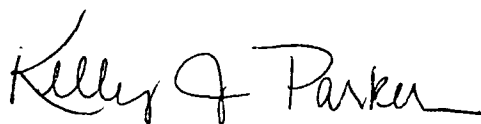
4. Clarification of Salt Marsh Language.

Finally, we removed the statement "around estuarine areas, treat high salt marsh or tidal marsh above high tide water level" because it was erroneous. We have, in its place, added the salt marshes. This use site would allow the estuarine, salt and tidal marsh treatments at the same use rate and instructions as the other noncrop areas without the erroneous language.

Changes related to the salt marsh language are highlighted in orange.

Amendments for the added sites and flea use were submitted separately in March of 1991. Over the last two years, we have continuously discussed and corresponded with the Agency regarding their progress. However, at our last check on their status, we were told the applications had been lost. We have already suffered considerable delay in processing these changes. Therefore, we would appreciate your attention and expeditious review of this application.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

(A) United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	Application for Pesticide: <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> <div style="margin-right: 5px;">Registration</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> <div style="margin-right: 5px;">Amendment</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> <div style="margin-right: 5px;">Other</div> </div>	OPP Identifier Number <div style="font-size: 24px; font-weight: bold; color: red;">156453</div>
--	---	--

Section I

1. Company/Product Number <div style="text-align: right; font-weight: bold;">2724-446</div>	2. EPA Product Manager Phil Hutton	3. Proposed Classification <div style="display: flex; justify-content: space-between;"> <div><input checked="" type="checkbox"/> None</div> <div><input type="checkbox"/> Restricted</div> </div>
4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-20	PM# <div style="text-align: right; font-weight: bold;">18</div>	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, Tx 75234 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input checked="" type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<div style="border: 1px solid black; padding: 5px; height: 100px; background-color: yellow; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">Con</div>
---	---

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

To Include Additional Use Sites for Mosquito Vector Control and to Include Use for Fleas in Lawns, and Tank Mixing and Clarification of Salt Marsh Language

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> <div style="margin-right: 5px;">No</div> </div>	Unit Packaging <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> <div style="margin-right: 5px;">No</div> </div>	Water Soluble Packaging <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> <div style="margin-right: 5px;">No</div> </div>	2. Type of Container <div style="display: flex; flex-direction: column;"> <div><input checked="" type="checkbox"/> Metal</div> <div><input checked="" type="checkbox"/> Plastic</div> <div><input type="checkbox"/> Glass</div> <div><input type="checkbox"/> Paper</div> <div><input type="checkbox"/> Other (Specify) _____</div> </div>
* Certification must be submitted.		If "Yes," Unit Package wgt. No. per container _____	If "Yes," Package wgt. No. per container _____
3. Location of Net Contents Information <div style="display: flex; justify-content: space-between;"> <div><input checked="" type="checkbox"/> Label</div> <div><input type="checkbox"/> Container</div> </div>	4. Size(s) of Retail Container 1 oz. to 55 gallons	5. Location of Label Directions <div style="display: flex; justify-content: space-between;"> <div><input checked="" type="checkbox"/> On Label</div> <div><input type="checkbox"/> On Labeling accompanying product</div> </div>	
6. Manner In Which Label Is Affixed To Product <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> <div style="margin-right: 5px;">Paper glued</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> <div style="margin-right: 5px;">Other (_____)</div> </div>			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Kelly J. Parker	Title Regulatory Specialist	Telephone No. (Include Area Code) 214/888-8726	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped) <div style="font-size: 24px; font-weight: bold;">19</div>
2. Signature 	3. Title Regulatory Specialist		
4. Typed Name Kelly J. Parker	5. Date 14 July 1993		

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

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SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number 156453
	Application for Pesticide:		
	Section I		

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Section II

<input checked="" type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

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To Include Additional Use Sites for Mosquito Vector Control and to Include Use for Fleas in Lawns, and Tank Mixing and Clarification of Salt Marsh Language

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
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6. Manner In Which Label Is Affixed To Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other (_____)			

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- 1-5. Self-explanatory.
6. EPA Use Only.

[] optional wording

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate].....

20.0%

INERT INGREDIENTS:.....

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator **has no effect when applied to pupae or adult mosquitoes**. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see **Guide to Product Application**.

METHODS OF APPLICATION -- Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.t.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.t. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
0793-E

EPA Est
Made in U.S.A.

NET CONTENTS:

4.4-8.43

[] optional wording

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dodecadienoate].....

20.0%

INERT INGREDIENTS:.....

80.0%

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KEEP OUT OF REACH OF CHILDREN

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APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
0793-E

EPA Est
Made in U.S.A.

NET CONTENTS:

4.4 L (1.17 GAL)

[] optional wording

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-

dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator **has no effect when applied to pupae or adult mosquitoes**. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see **Guide to Product Application**.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety israeliensis (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from **24:1** to **50:1** (volume/volume). For example, to prepare a **50:1** tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

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EPA Est
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NET CONTENTS:

4.4 LBS

[] optional wording

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate].....

20.0%

INERT INGREDIENTS:.....

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator **has no effect when applied to pupae or adult mosquitoes.** Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see **Guide to Product Application.**

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas:

Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product] [brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

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EPA Reg. No. 2724-446
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EPA Est
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NET CONTENTS:

8.4-8.43

[] optional wording

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate].....

20.0%

INERT INGREDIENTS:.....

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

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APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas:

Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

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EPA Reg. No. 2724-446
0793-E

EPA Est
Made in U.S.A.

NET CONTENTS:

8.45 LBS

WLN
300

PM 18

This is an accepted submission. One copy of the PPC diagnosis and one of the annotated bibliography are provided for your files. The PPC has already mailed out the submitter's copies of the two documents.

This is a partially accepted/rejected submission. A copy of the PPC diagnosis and of the annotated bibliography (if applicable) are provided for your files. A second copy is provided for your use in corresponding with the data submitter.

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs

JUL 23 1993

ZOECON CORPORATION
A SANDOZ COMPANY
12200 DENTON DRIVE
DALLAS, TX 75234

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your transmittal of 07/22/93. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

14 July 1993

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
Document Processing Desk (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: **Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446**

**Amendment to Include Additional Use Sites for Mosquito Vector Control,
to Include Use for Fleas In Lawns, Tank Mixing, and Clarification of Salt Marsh
Language.**

Dear Mr. Hutton:

By way of this application, we propose three actions:

1. Use of Zoecon RF-437 in irrigated croplands after flooding to control mosquito emergence.

Examples of such sites include vineyards, rice fields, date palm orchards, fruit and nut orchards and berry fields and bogs. Mosquitos develop in the irrigation water in these areas. These types of mosquito vector control uses are no longer considered food uses (Reregistration Eligibility Document for methoprene, List A, Case 0030, page 10). Application to irrigation water in rice fields is currently approved for this product. However, we have modified the language on the label regarding rice since currently-approved language relates to rice-growing practices that are not applicable in all areas.

Changes related to the new use sites are highlighted in yellow on the label.

2. Use of Zoecon RF-437 on lawns for flea control.

This product is a microencapsulated product allowing slow-release and protection of (S)-methoprene outdoors. Enclosed are efficacy data supporting the outdoor use for flea control:

MRID NumberStudy42855001

Meola, R., Donahue, B. Efficacy of Juvenoids in Soil-filled Peat Pots
for Outdoor Control of Cat Fleas. Texas A & M University. Compound
Screening. Unpublished. 8 pages.

The flea efficacy data support use at a rate of one fluid ounce per 1000 square feet of yard (6 milligrams of active ingredient per square foot of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene.

Zoecon RF-437 is the same as A.L.L. except it contains 20% (S)-methoprene. Therefore, since RF-437 is more concentrated, it is a more economical product. When we market the flea product, we'll delete the mosquito control directions and claims.

Changes related to the flea use are highlighted in pink.

3. Tank mixing Zoecon RF-437 with Teknar HP-D, EPA Reg. No. 2724-365.

Changes related to tank mixing are highlighted in blue on the label.


4. Clarification of Salt Marsh Language.

Finally, we removed the statement "around estuarine areas, treat high salt marsh or tidal marsh above high tide water level" because it was erroneous. We have, in its place, added the salt marshes. This use site would allow the estuarine, salt and tidal marsh treatments at the same use rate and instructions as the other noncrop areas without the erroneous language.

Changes related to the salt marsh language are highlighted in orange.

Amendments for the added sites and flea use were submitted separately in March of 1991. Over the last two years, we have continuously discussed and corresponded with the Agency regarding their progress. However, at our last check on their status, we were told the applications had been lost. We have already suffered considerable delay in processing these changes. Therefore, we would appreciate your attention and expeditious review of this application.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

AMENDMENT

FAST TRACK * APPLICATION FOR AMENDMENT

<u>WITH DATA</u>	Init.	Date	<u>NO DATA</u>	Init.	Date
FEU	_____	_____	FEU	_____	_____
SIG (DATA)	_____	_____	PM	_____	_____
FEU	_____	_____			
PM	_____	_____			

REGULAR APPLICATION FOR AMENDMENT

<u>WITH DATA</u>	Init.	Date	<u>NO DATA</u>	Init.	Date
FEU	_____	_____	<i>has data</i> 7/8 ✓ FEU	DM	7/22/93
SIG (DATA)	_____	_____	PM	_____	_____
PM	_____	_____			

- * Front End Processing determined this application qualifies for fast track review based on registrants claim of "me-too". No screen for substantial similarity is made by the Front End.

NEW REGISTRATION OR NEW EUP

FAST TRACK * APPLICATION FOR NEW REGISTRATION

<u>WITH DATA</u>	Init.	Date	<u>NO DATA</u>	Init.	Date
FEU	_____	_____	FEU	_____	_____
Fileroom/PRDTS	_____	_____	Fileroom/PRDTS	_____	_____
SIG (DATA)	_____	_____	PM	_____	_____
Fileroom/PRDTS	_____	_____			
FEU	_____	_____			
Fileroom/PRDTS	_____	_____			
PM	_____	_____			

REGULAR APPLICATION FOR NEW REGISTRATION or EXPERIMENTAL USE PERMIT

Includes new petition for tolerance: YES or NO

<u>WITH DATA</u>	Init.	Date	<u>NO DATA</u>	Init.	Date
FEU	_____	_____	FEU	_____	_____
Fileroom/PRDTS	_____	_____	Fileroom/PRDTS	_____	_____
SIG (DATA)	_____	_____	PM	_____	_____
Fileroom/PRDTS	_____	_____			
PM	_____	_____			

* Front End Processing determined this application qualifies for fast track review based on registrants claim of "me-too". No screen for substantial similarity is made by the Front End.

expedite

2724-446

DP BARCODE: D172322

CASE: 028442
SUBMISSION: S408489

~~Don Sebaugh~~
DATA PACKAGE RECORD
BEAN SHEET

DATE: 12/13/91
Page 1 of 1

*** CASE/SUBMISSION INFORMATION ***

CASE TYPE: REGISTRATION ACTION: 405 DATA-ADVERSE DATA
CHEMICALS: 105402 Isopropyl-11-methoxy (2E,4E,7S)-3,7,11-trimethyl-2 20.0000%

ID#: 002724-00446 ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20
COMPANY: 002724 ZOECON CORPORATION
PRODUCT MANAGER: 18 PHILLIP HUTTON 703-305-7690 ROOM: CM2 213
PM TEAM REVIEWER: WILLIE NELSON 703-305-6601 ROOM: CM2 209
RECEIVED DATE: 11/25/91 DUE OUT DATE: 02/03/92

*** DATA PACKAGE INFORMATION ***

DP BARCODE: 172322 EXPEDITE: Y DATE SENT: 12/13/91 DATE RET.: / /
CHEMICAL: 105402 Isopropyl-11-methoxy (2E,4E,7S)-3,7,11-trimethyl-2,4-dodeca
DP TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 01/07/92 CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT
DIV : RD	/ /	/ /
BRAN: RSB	/ /	/ /
SECT: PRS <i>Wm. S. Woodrow</i>	/ /	<i>11-10-92</i>
REVR :	/ /	/ /
CONTR:	/ /	/ /

*** DATA REVIEW INSTRUCTIONS ***

PLEASE REVIEW THIS DATA FOR FIFRA COMPLIANCE.

*** ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION ***

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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*Note: We received this bean sheet and reviews
(hand carried by Willie Nelson) on 1-23-92 (11:24 a.m.)
This (A)(2) data has a ~~due out date~~ ^{and} ~~admin due date~~ ^{of 1-23-92} and needs immediate review.*

Don Sebaugh

*42 1084-02 vval
03 denied for 1-23-92
05 eye irrit
06 skin sensit.*

(A)(2)

MEMORANDUM

SUBJECT: EPA Reg. No./File Symbol 2724-446
Zoecon RF-379 Mosquito Growth Regulator SR-20

FROM: William S. Woodrow *WSW 1-10-92*
Precautionary Review Section
Registration Support Branch *E*
Registration Division (H75-05C)

TO: P-Hutton, Wilma Nelson (PM 18)
Insecticide - Rodenticide Branch
Registration Division (H75-05C)

APPLICANT: Zoex Corp.
12200 Denton Drive
Dallas, TX 75234

FORMULATION FROM LABEL:

Active Ingredient(s):	% by wt.
(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,2,11-trimethyl-2,4-dodeca-dienoate]	20.0
Inert Ingredient(s):	80.0
Total	100.0%

BACKGROUND

Zoecon Corp. submitted acute oral, acute dermal, eye irritation and dermal sensitization studies to support registration of Zoecon RF-437 Mosquito Growth Regulator SR-20 (EPA Reg. NO. 2724-446). MRID NOS. used were 421084-02, -03, -05, and 421084-06.

RECOMMENDATION

- 1) The acute toxicity studies submitted by Zoecon are acceptable. All studies were graded Core Guideline data.
- 2) The Registrant must submit:
 - a. A dermal irritation study, and
 - b. An acute inhalation study
- 3) Current acute toxicity profile for Zoecon RF-437 Mosquito Growth Regulator SR-20 (2724-446):

study	Results	Classification	Tox. Cat.
acute oral	LD ₅₀ > 5.1 g/kg	Guideline	IV
acute dermal	LD ₅₀ > 2.1 g/kg	Guideline	III
eye irritation	Irrit absent day 3	Guideline	III
skin sensitization	1 _S dermal Sensitizer	Guideline	-

- 4) PM NOTE: Upon receipt of requested acute toxicity studies, Precautionary Labeling may need revising.

LABELING

- 1) The CAUTION signal word is appropriate.
- 2) Change the Precautionary Statements as follows:

"Causes (moderate) eye injury. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling."

- 3) Add a paragraph entitled "
Statements of Practical Treatment

If on skin: Wash with plenty of soap and water. Get medical attention.

If in eyes: Flush with plenty of water. Call a physician if irritation persists."

4) Add the following statements under the Precautionary Labeling:

"Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals".

DATA REVIEW FOR ACUTE ORAL TOXICITY TESTING (§81-1)

Product Manager: (18) 10-25-91 Reviewer: Woodrow M. Waller
 MRID No.: 421084-02 Report Date: 1-30-92
 Testing Facility: SRI International, Inc. Report No. LSC 2673-M032-91
 Author(s): J.E. Schindler, R.C. Baldwin
 Species: Rat, Sprague Dawley
 Age: 9-10 weeks old Observation Days (Post Exposure): (14) other ()
 Weight: M 193-206, F 187-201 g
 Source: Simonsen Labs., Gilroy, CA
 Test Material: 20000 RF-437 Code # R437N SAN 810120CS, white
 Quality Assurance (40 CFR §160.12): yes (Q.A. = G.L.P.) liquid
 ph
 7-8

Conclusion:

- LD₅₀ (mg/kg): Males = _____; Females = _____; Combined = _____
- The estimated LD₅₀ is > 5.1 g/kg
- Tox. Category: IV Classification: Guideline

Procedure (Deviations From §81-1): Animals quarantined 5 days pre-test, and fasted overnight. Undiluted test mat. dosed at 5.1 g/kg to moderate (4.9 ml/kg) → density = 1.04 gm/ml.
 Results: Animals observed for toxic signs and mortality @ 0.5, 2, 4, 6 hrs post-dosing, and 2x daily to Day 14.
 Reported Mortality

DOSAGE (g / kg)	(NUMBER KILLED/NUMBER TESTED)		
	Males	Females	Combined
5.1 g / kg	0/5	0/5	0/10

Symptomology & Gross Necropsy Findings:

All rats subjected to necropsy.
Clinical: No signs of clinical toxicity, no weight gain affected.
Necropsy: No gross abnormalities.

DATA REVIEW FOR ACUTE DERMAL TOXICITY TESTING (§81-2)

Product Manager: (18) 10-25-91 Reviewer: ^{Woodward} H. ~~Waller~~
 MRID No.: 421084-03 Report Date: 1-30-92
 Testing Laboratory: SRI International, Inc. Report No. LSC-2673-M033-91
 Author(s): J.F. Schindler, R.C. Baldwin
 Species: Rabbit N 2 White
 Sex: 5M 45F Wt.: M 2.76-3.02, F 3.01-3.17 kg
 Test Material: Zocon RF-437, Code R437N, Sample No. R437N-1, liquid
 Quality Assurance (40 CFR §160.12): yes (Q.A. & G.L.P.)

Summary:

- LD50 (mg/kg): Males = _____; Females = _____; Combined = _____;
- The estimated LD50 is > 2.1 g/kg
- Tox. Category: III Classification: Guideline

Procedure (~~Deviations From §81-2~~): 2.1 g/kg (1.04 mg/kg) applied to clipped dorsal area of 5M & 5F rabbits (2.02 ml/kg).
Treatment area was 4" x 4", held in skin contact & porous gauze secured & taped. Entire trunk wrapped & dental dam, Results: which was secured & taped. All treated animals fitted with an Elizabethan Collar. Animals observed for toxic signs and
 Reported Mortality

DOSAGE (g / kg)	(NUMBER KILLED/NUMBER TESTED)		
	Males	Females	Combined
2.1 g / kg	0/5	0/5	0/10

Symptomology & Gross Necropsy Findings: @ 1, 2 & 3 hr post-treatment
 * 1 x death to 14 days.
 mortality - Body weights recorded Day 0, 7 & 14. All rabbits subjected to gross necropsy.
 Clinical: No change in body weight gain. All M & F rabbits displayed slight to moderate skin irritation.
 Necropsy: No gross abnormalities.

DATA REVIEW FOR ACUTE EYE IRRITATION TESTING (§81-4)

Product Manager: (18) 10-25-91
 MRID No.: 421084-05
 Testing Laboratory: SRI International
 Author(s): J. E. Schindler, R. C. Baldwin
 Species: rabbit, N 2 white

Reviewer: Woodcock
~~M. Waller~~
 Report Date: 1-10-92
 Report No. LSC 2673-M635-91

Sex: 3m & 6f Weight: not given
 Source: Western Oregon Rabbit Co, Philomath, OR.

Dosage: 0.1 ml
 Test Material: Sample NO. R437N SAN 810 I 20ES, liquid density 1.04 g/ml
 Quality Assurance (40 CFR §160.12): yes (Q.A. = G.L.P.)

Summary:

Tox. Category: III Classification: Guideline

Procedure (~~Deviation From §81-4~~): Rabbits acclimated for 5 days.

All rabbit eyes examined for defects, if need be, eyes were further examined using fluorescence (UV light). 0.1 ml test material

placed in conjunctival sack, right eye of 9 rabbits. Lids held

Results: together 1 second. Treated eyes of 6 rabbits not washed.
 Treated eyes examined @ 1, 24, 48, 72 hrs post treatment & irritation

Observations

	(number "positive"/number tested)							
	Hour	Days						
	1	1	2	3	4	7	14	21
<u>NOT RINSED</u> <u>EYES ONLY</u> Cornea Opacity →	0/6	0/6	0/6	0/6				
Iris	0/6	0/6	0/6	0/6				
Conjunctivae	0/6	0/6	0/6	0/6				
edness	0/6	0/6	0/6	0/6				
Chemosis	0/6	0/6	0/6	0/6				
Discharge	4/6	2/6	1/6	0/6				

graded

Comments: according to the Draize method. No Cornea or
 iritis all conjunctival irritation absent by
 72 hours.

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DATA REVIEW FOR SKIN SENSITIZATION TESTING (§81-6)

Product Manager: (18) 10-25-91 Reviewer: Woodrow
 MRID No.: 421084-06 Report Date: 1-10-92
 Testing Laboratory: SPI International Report No.: LS-2673-M036-91
 Author(s): J.E. Schindler, R.C. Baldwin
 Species: Guinea pigs, male Hartley
 Sex: males & females Weight: M 171-335, F 248-317g pH: 7-8
 Source: Simonsen Labs, Gilroy, CA 1045/ml
 Test Material: sample NO. R437N SAN 810 T 20C3, liquid, Density 5
 Positive Control Material: dinitrochlorobenzene (DN/CB)
 Quality Assurance (40 CFR §160.12): Q.A. (7 G.L.P.)

Method: Buehler topical closed patch method

Summary:

1. This product ☒ is not a dermal sensitizer.
2. Classification: Guaranteed

Procedure (~~Deviation From §81-6~~): Positive Control (DN/CB) material
used as 80% (V/V) solution in aqueous EtOH; for induction
used 0.4% (W/V) DN/CB in 80% aqueous EtOH, for challenge and
0.2% (W/V) DN/CB in 80% aqueous EtOH.

Results: Guinea pigs guaranteed for 5 days.

PROTOCOL: Derived from the Testers Report

Group	Induction	Challenge	Rechallenge	No. males	No. females
Test	100% test mat.	100% test mat.	—	5	5

Neg. Cont.	—	100% T. Mat.	—	5	5
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Rechallenge Control	—	—	—	5	5
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Positive Control	DN/CB	DN/CB	—	3	3
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DN/CB Veh. cont.	80% Ethanol	DN/CB	—	3	3
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Unquote

Prior to main steady irritation, 4 g. pigs (hair removed from dorsal area) treated with 0.4% undiluted test material applied to Wickel pads. Pads then placed on application site & secured with tape. 6 hr contact. Treated sites examined and scored for irritation at 24 and 48 hours. None of the (4) animals showed signs of irritation. Then, undiluted t.m. used for induction (maximal, non-irritation concentration).

Induction - Dorsal pig in test mat. group treated typically on clipped left flank w/ 0.4% undiluted t.m. once weekly for 3 weeks, using Wickel pads placed on same test site. Pads occluded with rubber dental dam & torso wrapped with sand elastic adhesive tape. 6 hr contact. Positive control treated in similar manner with either 0.4% DNCB in 80% aqueous ethanol, or 80% aqueous ETOH.

At end of 6 hr exposures, wrappings removed, sites washed & scored for erythema & edema. (0-3 scale). Fourteen days after last induction treatment, all g. pigs test material and negative control groups treated w/ 0.4% undiluted test mat, using same (untreated) sites on right flanks. 6 hr contact.

Challenge sites evaluated @ 24 & 48 hours

The positive control group & vehicle control similarly challenged w/ a 0.2% sol of DNCB in 80%.

aqueous ethanol. The challenge results were not equivocal, and therefore a rechallenge was not necessary.

Results:

1) Test Material - Male and female induction scores = 0.0.

Average T. Maxes @ challenge:	M	F	Com.
24 hr	1.5	1.1	1.3
48 hr	1.0	1.0	1.0

2) The DNCB induced and challenged animals (-positive control) were sensitized.

Conclusion:

The male and female of fish induced and challenged, were sensitized by the test material.

Tox Chem. No.


File Last Updated

Current date

1-10-92

028 AAA Methoprene

Study/Species/Lab/Study# Date	Material	MRID No.	Results	Tox. Cat.	Core Grade
acute oral LD ₅₀ , Rat SRI International # 10-25-91 LSC 2673-M032-91	Methoprene Zeecon RF-437 R 437 M	421084 -02	LD ₅₀ > 5.1 g/kg	IV	guide- line
acute dermal LD ₅₀ , Rabbit SRI International # 10-25-91 LSC 2673-M033-91	"	421084 -03	LD ₅₀ > 2.15/kg	III	guide- line
Eye irritation, Rabbit SRI International # 10-25-91 LSC 2673-M035-91	"	421084 -05	All irritation absent by day 3	III	guide line
skin sensitization, guinea pigs - SRI International LSC-2673-M036-91 10-25-91	"	421084 -06	test material <u>did</u> sensitize Guinea pigs	-	guide- line

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number 168980
	Application for Pesticide:		

Section I

1. Company/Product Number 2724-446	2. EPA Product Manager Phil Hutton	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-20	PM# 18	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section II

<input type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Label Amendment

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container 1 oz. to 55 Gallons	5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other (_____)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Kelly J. Parker	Title Regulatory Specialist	Telephone No. (Include Area Code) 214/888-8726	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Specialist		
4. Typed Name Kelly J. Parker	5. Date 19 August 1991		

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

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Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III: (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval expires 11-30-93

(A) EPA		United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460		<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other		OPP Identifier Number 168980	
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5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address				6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____			
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<input checked="" type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.				<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.			
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Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No		Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____		Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____		2. Type of Container <input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
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Name Kelly J. Parker			Title Regulatory Specialist			Telephone No. (Include Area Code) 214/888-8726	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.						6. Date Application Received (Stamped) SEP 19 1991	
2. Signature Kelly J. Parker			3. Title Regulatory Specialist				
4. Typed Name Kelly J. Parker			5. Date 19 August 1991				

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3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

Zoecon Corporation

A SANDOZ Company

19 August 1991

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

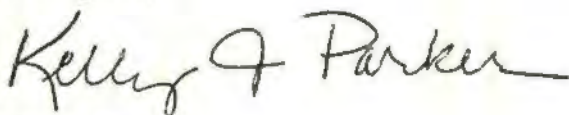
RE: ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392
Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 (a.k.a. Zoecon
RF-379 Mosquito Growth Regulator SR-20)

Dear Mr. Hutton:

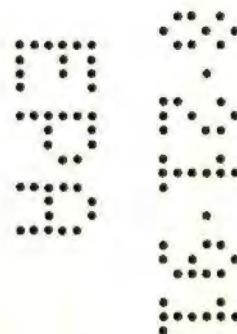
Enclosed are labels from which we have removed one sentence under the heading "Intermittently Flooded Noncrop Areas" The sentence, "Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level" is in error in that it instructs the user to apply the product above high tide level. Floodwater mosquito larvae are found in areas between the low tide water line and the high tide water line.

This sentence is not relevant to the directions for use. Users of this product are familiar with floodwater mosquito treatments and this direction is out of line with common industry practice. I've enclosed labels for the other mosquito control products on the market for your reference.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512



ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate. No warranty or guarantee, express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.)
0.5 lbs. HiSil 233 (silicon dioxide)
Small Funnel
Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

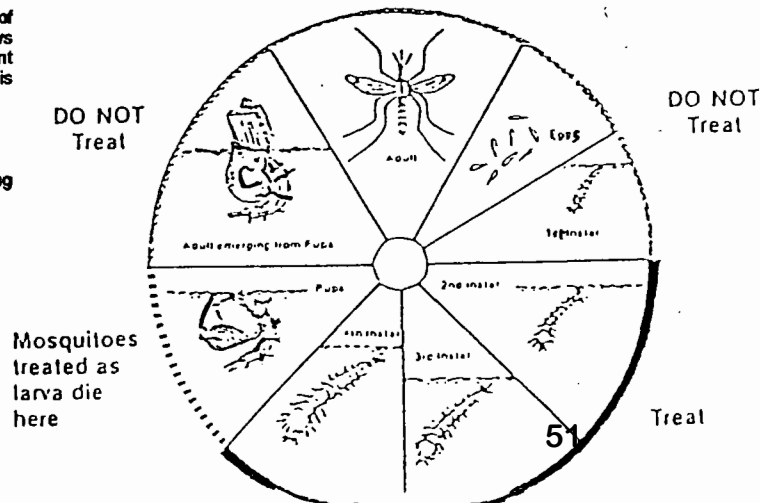
DO the following:

1. DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-

dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION, TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex,] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0891-D:0145E

EPA Est.
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Made in U.S.A.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented here, while not guaranteed, is to the best of our knowledge true and accurate. No warranty or guarantee, express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.)
0.5 lbs. HiSil 233 (silicon dioxide)
Small Funnel
Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

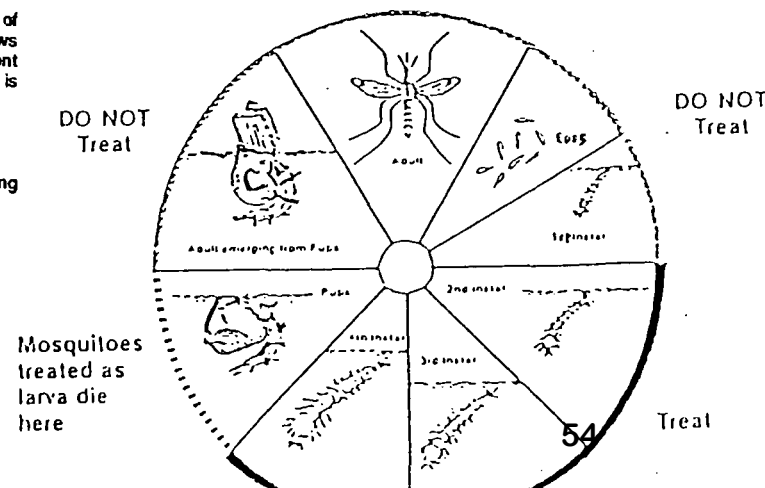
DO the following:

1. DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or their experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas [larvae] up to 8 weeks
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see *Guide to Product Application*.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to *Guide to Product Application*.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex,] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
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ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate. No warranty or guarantee, express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.)
0.5 lbs. HiSil 233 (silicon dioxide)
Small Funnel
Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

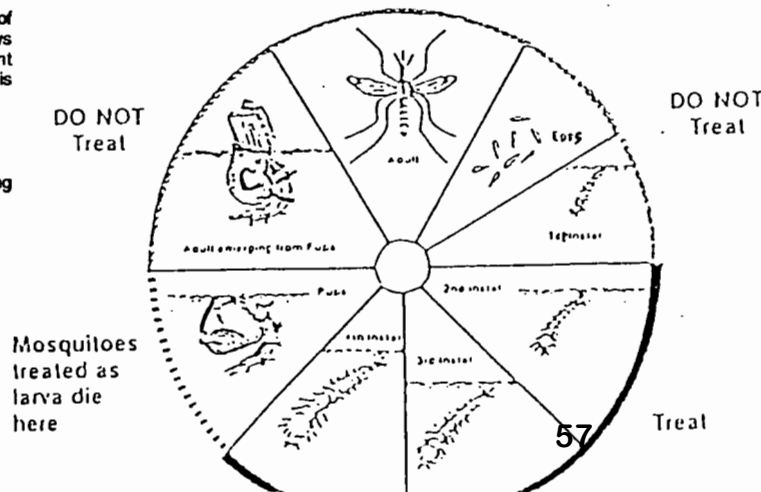
DO the following:

1. DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas [larvae] up to 8 weeks
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)- 11-methoxy-3,7,11-trimethyl-2,4- dodecadienoate]	20.0%
INERT INGREDIENTS	80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 floz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0891-D:0145E

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ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

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Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

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ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.)
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Small Funnel
Cement Mixer

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3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

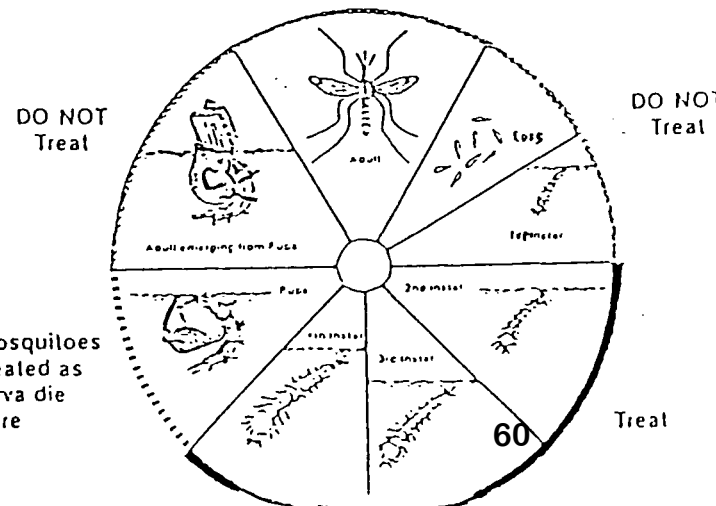
DO the following:

1. DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- * The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- * The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- * Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPROPRIATE TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

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When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex.] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

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Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

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3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

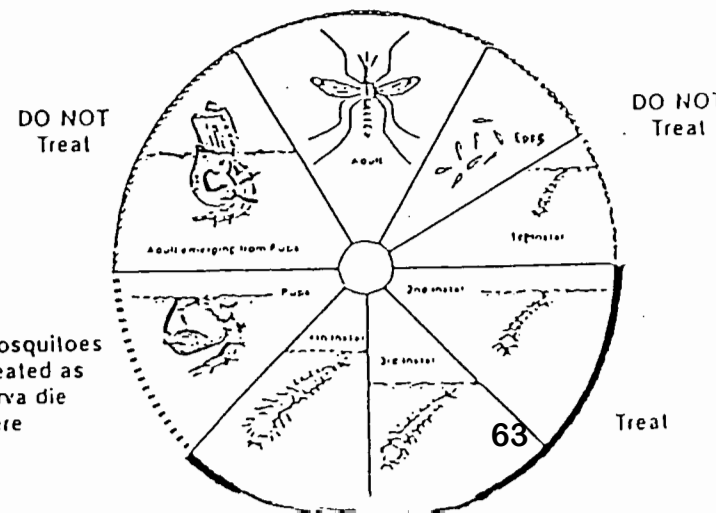
DO the following:

1. DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or their experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.



High Potency Biological Larvicide Aqueous Suspension

SPECIMEN

ACROBE is a highly selective microbial insecticide effective against mosquitoes and blackflies in a variety of habitats.

ACTIVE INGREDIENT: <i>Bacillus thuringiensis</i> var. <i>israelensis</i> , 1200 International Units (ITU) per milligram*		
	1.2%	
INERT INGREDIENTS	98.8%	
TOTAL	100.0%	

*Equivalent to 4.84 billion ITU/gallon (1.28 billion ITU/liter).

EPA Reg. No. 62637-1-241

KEEP OUT OF REACH OF CHILDREN
CAUTION! PRECAUCION!

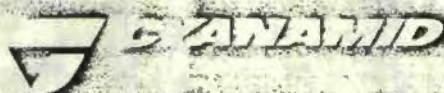
PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

See Additional Precautionary Statements on Next Page.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.



PRECAUTIONARY STATEMENTS

CAUTION

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage: Store in a cool dry place.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent), then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

ACROBE may be applied to any water sites except treated, finished drinking water reservoirs or drinking water receptacles. Since the active ingredient in ACROBE is exempt from the requirement of a tolerance on all raw agricultural commodities, applications to irrigation water are permissible.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values or any other special or indirect damages. American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

MOSQUITOES:

Habitat	Rate Required for Control
Flood water, roadside ditches, irrigation ditches, rice fields, pastures, woodland pools, snow melt pools	0.25-0.50 pts./A
Tidal water, salt marshes, catch basins, storm water retention areas	0.50-1.0 pts./A
Polluted water (sewage lagoons, etc.) water with moderate organic matter, and water with a high concentration of suspended solids	1.0-2.0 pts./A

SPECIFIC APPLICATION INSTRUCTIONS

ACROBE may be applied in conventional aerial and ground application equipment with sufficient water to provide thorough coverage of the target area. The amount of water needed will be dependent on weather, type of spray equipment and mosquito habitat.

Ground applications should be made in 5-100 gallons per acre in conventional equipment. As low as one gallon per surface area can be used when the target area is open with a light vegetative cover. Aerial applications may be done diluted or undiluted. For undiluted applications, apply 0.20 to 2.0 pts./A of ACROBE through fixed wing aircraft or helicopters equipped with conventional boom and nozzles or rotary mist atomizers. For diluted applications, fill the mix tank or aircraft hopper with the appropriate volume of water and agitate before adding ACROBE. Maintain agitation during loading and spraying.

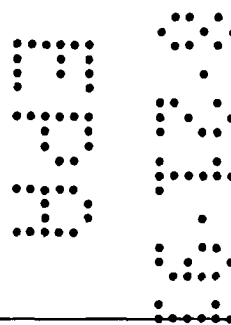
BLACKFLIES:

SUGGESTED CONCENTRATION RANGE	0.5-0.75 PPM (0.5-0.75 mg/liter of stream water)
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The concentration should be maintained in the stream for 15 minutes.

SPECIFIC APPLICATION INSTRUCTIONS

Apply with conventional ground and aerial application equipment or metered release systems from infested sites to achieve larvicidal concentrations. Insecticidal activity should occur within 24 hours. Reapply as needed. ACROBE may be applied undiluted through appropriate ULV application equipment.



Manufactured for: AMERICAN CYANAMID COMPANY • Agricultural Division • Vegetation and Pest Control, Wayne, NJ 07470 ©1990

SPECIMEN

**Vectobac-12AS**
BIOLOGICAL LARVICIDE

AQUEOUS SUSPENSION

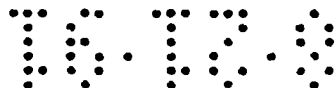
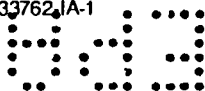
Active Ingredient:

Bacillus thuringiensis, Serotype, H-14, 1200
International Toxic Units (ITU) per milligram
(Equivalent to 4.84 billion ITU per gallon;
1.279 billion ITU per liter) 1.2%
Inert Ingredients 98.8%

KEEP OUT OF REACH
OF CHILDREN

CAUTION

EPA Reg. No. 275-66
EPA Establishment No. 337621A-1
List No. 5605



Chemical & Agricultural Products Division
Abbott Laboratories
North Chicago, IL 60064

Vectobac®-12AS is a highly selective insecticide for use against mosquito, black fly and fungus gnat larvae.

APPLICATION DIRECTIONS

MOSQUITO Habitat

Suggested Range Rate*

(Such as the following examples):

Irrigation ditches, roadside ditches,
flood water, standing ponds, wood-
land pools, snow melt pools, pastures,
catch basins, storm water retention areas,
tidal water, salt marshes and rice fields.

0.25 pt -
1 pt/acre

Polluted water (such as sewage
lagoons, animal waste lagoons)

1 pt-2pts/acre

*Use higher rate in polluted water and when late 3rd and early 4th instar
larvae predominate, mosquito populations are high, water is heavily
polluted, and/or algae are abundant.

BLACK FLIES Habitat

Suggested Range Rate

Streams

0.5-25 mg/liter
stream water**
(=ppm)

**Use higher rate when stream contains high concentration of organic
material, or dense aquatic vegetation.

GROUND AND AERIAL APPLICATION

Vectobac-12AS may be applied in conventional ground or aerial
application equipment with quantities of water sufficient to
provide uniform coverage of the target area. The amount of
water needed per acre will depend on weather, spray equipment,
and mosquito habitat characteristics. Do not mix more
Vectobac-12AS than can be used in a 2-week period.

For most ground spraying, apply in 5-100 gallons per acre using
hand-pump, airblast, mist blower, etc., spray equipment.

For aerial application, Vectobac-12AS may be applied either
undiluted or diluted with water. For undiluted applications, apply
0.25 to 2.0 pts/acre of Vectobac-12AS through fixed wing or
helicopter aircraft equipped with either conventional boom and
nozzle systems or rotary atomizers.

For diluted application, fill the mix tank or plane hopper with the
desired quantity of water. Start the mechanical or hydraulic
agitation to provide moderate circulation before adding the
Vectobac-12AS. Maintain the agitation while loading or spraying.
For all aerial applications, a droplet spectrum in the range of
50-100 microns (VMD) will produce best results.

Rinse and flush spray equipment thoroughly following each use.

For black fly aerial applications, Vectobac-12AS can be applied
undiluted via fixed wing or helicopter aircraft equipped with
either conventional boom and nozzle systems or open pipes.
Rate of application will be determined by the stream discharge
and the required amount of Vectobac-12AS necessary to maintain
a 0.5-25 ppm concentration in the stream water. Vectobac-12AS can
also be applied diluted with similar spray equipment. Do not mix
more Vectobac-12AS than can be used in a 2-week period.

Fungus Gnat Habitat (All states except California)

Ornamental plants in
greenhouse, on nursery
plantings in potting soil
mixtures with high per-
cent peat.

*8 to 16 oz / 100 gallons = 0.5 to 1 tsp/gallon
**32 to 64 oz / 100 gallons = 2 to 4 tsp/gallon

Apply with adequate water by soil drench to sufficiently wet the
soil surface above and under greenhouse benches where larvae
are found. Areas under benches should be treated at high rate,
as this is one of the primary breeding areas. Reapply as needed.
Vectobac-12AS is a larvicide and will not control adult gnats.
Fungus gnat larvae generally respond to Vectobac-12AS
treatment within 24 hours following application.

Vectobac-12AS can be applied by injection into drip or overhead
irrigation systems.

Vectobac-12AS is not phytotoxic to ornamental plant species.
However, since all ornamental plant species have not been
evaluated, sensitivity to Vectobac-12AS should be checked on
several plants prior to wide scale usage.

SMALL QUANTITY DILUTION RATES FOR VECTOBAC-AS

Rates in Pints Per Acre	Gallons Spray Solution/Acre		
	10 Gal/A	25 Gal/A	50 Gal/A
	(Ounces Needed Per Gallon of Spray)		
0.25	0.2	0.1	0.04
0.5	0.4	0.2	0.08
1.0	0.8	0.33	0.16
2.0	1.6	0.66	0.32

PRECAUTIONARY STATEMENTS HAZARD TO HUMANS

As a precautionary measure in case of contact, flush eyes with
plenty of water. In case of irritation, contact a physician.

DIRECTIONS FOR USE

General Classification

It is a violation of Federal law to use this product in a manner
inconsistent with its labeling.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal..

STORAGE: Store in a cool dry place.

PESTICIDE DISPOSAL: Wastes resulting from use of this
product may be disposed of on site or at an approved waste
disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then
puncture and dispose of in a sanitary landfill, or by incineration,
or, if allowed by state and local authorities, by burning. If
burned, stay out of smoke. Do not reuse container.

NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability,
fitness or otherwise concerning the use of this product other than
as indicated on the label. User assumes all risk of use, storage or
handling not in strict accordance with accompanying directions.



vectobac-12AS

BIOLOGICAL LARVICIDE

Introduction

VECTOBAC®-12AS biological larvicide is a highly selective insecticide for control of most species of mosquito, black fly and fungus gnat larvae. It contains spores and delta-endotoxin crystals of *Bacillus thuringiensis*, Serotype H-14 (*B.t.* H-14). Activity against larvae is dependent upon the delta-endotoxin crystal. *B.t.* H-14 is well-suited for use in integrated pest management (IPM) control programs and environmentally sensitive areas, since toxicity testing has not indicated any harmful effect on mammals (and, by analogy, humans), birds, fish, or aquatic invertebrate predators

and parasites. The rapid rate of kill, typically within 24 hours, is in harmony with the inspection and evaluation programs currently used by most mosquito and black fly control operators.

The fermentation and formulation expertise acquired by Abbott Laboratories (North Chicago, Illinois, USA) in developing *B.t.* products for agriculture and forestry is being applied to the production of VECTOBAC brand *B.t.* H-14, thereby insuring high quality, stability, and performance.

Formulation

VECTOBAC-12AS is an aqueous suspension of *Bacillus thuringiensis*, Serotype H-14, containing 1200 International Toxic Units, (ITU) per milligram (equivalent to 4.84 billion ITU per gallon; 1.279 billion ITU per liter).

This formulation has been designed to be conveniently used in conventional ground or aerial application equipment. Flow properties also enable accurate metering into stream waters for black fly control.

Selectivity

The insecticidal activity of VECTOBAC-12AS is primarily limited to larvae of mosquitoes (Family Culicidae), black flies (Family Simuliidae) and fungus gnats (Families Sciaridae, Phoridae and Mycetophilidae). Tests have been conducted to determine the safety of *B.t.* H-14 to non-target species of

vertebrates and invertebrates. Results of these tests have shown that *B.t.* H-14 provides excellent control of larvae, while demonstrating no harmful effects on mammals (and, by analogy, humans), fish and most non-target aquatic organisms and beneficial insects.

Recommendations For Use

Recommended application rates for mosquito larvae range from 0.25 pint-1 quart VECTOBAC-12AS per acre, depending upon habitat and larval stage. Rates for control of black fly larvae range from 0.5 to 25 mg/liter

of stream water with higher rates being used in streams containing high concentrations of organic material.

Rates for the control of fungus gnats, ranges from 8 to 64 oz./100 gallons.

Ground and Aerial Application

VECTOBAC-12AS may be applied by either ground or aerial application equipment. For most ground spraying, apply in sufficient water (5-100 gallons per acre) to provide uniform coverage of the target area.

For aerial application, VECTOBAC-12AS may be applied either undiluted or diluted with water. (See label, opposite side, for

details.) Product containers should be shaken well before usage and proper agitation should be maintained in spray tank during application. No more VECTOBAC-12AS should be mixed than can be used in a 2-week period.

Best control of fungus gnats is achieved when applied as a soil drench.

Package Size Availability

VECTOBAC-12AS is available in 5 gallon units (2 x 2.5 gallon plastic containers), 30 and 55 gallon drums and bulk tanker trucks (4,000-6,000 gallons).



ABBOTT LABORATORIES
Chemical and Agricultural Products Division
North Chicago, IL 60064
For information call:
1-800-323-9597
In Illinois 1-800-642-1959

EASTERN REGIONAL OFFICE
310 S. Dillard St.
Suite 410
Winter Garden, FL 32787
(305) 656-8779

WESTERN REGIONAL OFFICE
1540 East Shaw
Suite 123
Fresno, CA 93710
(209) 227-2926

ABATE[®] 1-SG

insecticide

FOR CONTROL OF MOSQUITO AND MIDGE LARVAE

Active Ingredient:
 Temephos (O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl phosphorothioate) 1%
 Inert Ingredients 99%
 Total 100%

EPA Reg. No. 241-174AA

EPA Est. No. 8329-1L-01

KEEP OUT OF REACH OF CHILDREN CAUTION

See Below For Additional Precautionary Statements

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Flush with plenty of water. Get medical attention.

If on Skin: Wash with plenty of soap and water after handling. Get medical attention if irritation persists.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUCION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Avoid breathing dust. Avoid contact with skin. Wash thoroughly with soap and water after handling. Do not contaminate food or feed products.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

For control of mosquito and midge larvae, apply ABATE 1-SG as specified below:

Areas of Treatment	Lbs. Per Acre
Standing water, shallow ponds, lakes, woodland pools, catch basins	5-10
Tidal water, marshes, swamps and waters high in organic content	10-20

May be applied as a spot treatment to catch basins and similar areas where mosquitoes may breed.

Apply uniformly and repeat applications as necessary. Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values or any other special or indirect damages.

American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

*Registered trademark of American Cyanamid Company

Net Contents: 50 Lbs.

24678-0169 D-42
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ENDANGERED SPECIES RESTRICTIONS

Before using this product to control or eradicate mosquito larvae in a county listed below, you must contact the Endangered Species Specialist in the Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. You must provide FWS with your name and phone number, the product you intend to use, and the specific location in which you intend to use it. The U.S. Fish and Wildlife Service will inform you whether your proposed use is in the range of endangered species. Use of this product in the range of endangered species, as defined for you by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ALABAMA (Jackson, Mississippi, 601-965-4900)

Colbert, Greene, Jackson, Jefferson, Lamar, Lauderdale, Limestone, Madison, Marshall, Morgan, Pickens, and Sumter

ARIZONA (Phoenix, Arizona, 602-261-4720)

Graham, Lapaz, Mohave, Pima, Pinal, Santa Cruz, and Yuma

ARKANSAS (Jackson, Mississippi, 601-965-4900)

Benton, Clark, Clay, Cross, Lawrence, Lee, Poinsett, Polk, Randolph, Sharp, and St. Francis

CALIFORNIA (Sacramento, California, 916-978-4613)

Alameda, Colusa, Contra Costa, Humboldt, Imperial, Inyo, Los Angeles, Marin, Merced, Modoc, Mono, Monterey, Napa, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Sutter, and Ventura

DISTRICT OF COLUMBIA (Annapolis, Maryland, 301-269-5448)

Rock Creek Park

FLORIDA (Jacksonville, Florida, 904-791-2580)

Alachua, Baker, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Columbia, Dade, De Soto, Dixie, Duval, Flagler, Gadsden, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Madison, Manatee, Marion, Martin, Monroe, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, St. Johns, St. Lucie, Sarasota, Seminole, Sumter, Suwannee, Taylor, Union, Volusia, Wakulla, and Walton

GEORGIA (Jacksonville, Florida, 904-791-2580)

Brantley, Bryan, Bulloch, Burke, Camden, Candler, Catoosa, Charlton, Chatham, Effingham, Emanuel, Evans, Glascock, Glynn, Jefferson, Jenkins, Johnson, Liberty, Long, McIntosh, Pierce, Richmond, Screven, Ware, Washington, and Wayne

HAWAII (Honolulu, Hawaii, 808-546-5608)

Islands of Hawaii, Kauai, Maui, Molokai, Niihau, and Oahu

IDAHO (Boise, Idaho, 208-334-1806, Ext. 16)

Caribou, Bear Lake, and Bonneville

ILLINOIS (Rock Island, Illinois, 309-793-5800)

Gallatin, Henderson, Jo Daviess, Massac, Mercer, Pike, Pulaski, Rock Island

INDIANA (Bloomington, Indiana, 812-334-4261)

DeKalb and Posey

IOWA (St. Paul, Minnesota, 612-725-7131)

Allakamee, Clayton, Clinton, Des Moines, Dubuque, Fayette, Jackson, Louisa, Muscatine, and Scott

KANSAS (Grand Island, Nebraska, 308-381-5571)

Clark, Comanche, Meade, and Stafford

KENTUCKY (Asheville, North Carolina, 704-259-0321)

Ballard, Butler, Edmonson, Green, Hart, Jackson, Laurel, Livingston, Marshall, McCracken, McCreary, Pulaski, Rockcastle, Warren, and Wayne

MARYLAND (Annapolis, Maryland, 301-269-5448)

Harford

MINNESOTA (St. Paul, Minnesota, 612-725-7131)

Houston and Washington

MISSISSIPPI (Jackson, Mississippi, 601-965-4900)

Claiborne, Copiah, Hinds, Itawamba, Jackson, Lowndes, Monroe, and Noxubee

MISSOURI (Columbia, Missouri, 314-875-5374)

Barry, Benton, Bollinger, Butler, Camden, Cedar, Christian, Cole, Dallas, Franklin, Gasconade, Greene, Hickory, Jasper, Jefferson, Lawrence, Massac, Miller, Newton, Osage, Polk, Ralls, Ripley, St. Clair, St. Louis, Stone, and Wayne

NEBRASKA (Grand Island, Nebraska, 308-381-5571)

Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Dawson, Dodge, Douglas, Hall, Hamilton, Holt, Howard, Kearney, Keya Paha, Knox, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, and Saunders

NEVADA (Reno, Nevada, 702-784-5227)

Clark, Lincoln, Nye, and White Plain

NEW MEXICO (Albuquerque, New Mexico, 505-566-2323)

Chaves, Eddy, and Socorro

NORTH CAROLINA (Asheville, North Carolina, 704-259-0321)

Edgecombe, Macon, Nash, Pitt, and Swain

NORTH DAKOTA (Grand Island, Nebraska, 308-381-5571)

Burleigh, Emmons, McKensie, McLean, Mercer, Morton, and Oliver

OHIO (Columbus, Ohio, 614-231-3416)

Pickaway, Washington, and Williams

OKLAHOMA (Tulsa, Oklahoma, 918-581-7458)

McCurtain and Pushmataha

OREGON (Olympia, Washington, 206-753-9444)

Lake

SOUTH CAROLINA (Asheville, North Carolina, 704-259-0321)

Aiken, Barnwell, Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, and Marion

SOUTH DAKOTA (Pierre, South Dakota, 605-224-8692)

Hughes and Yankton

TENNESSEE (Asheville, North Carolina, 704-259-0321)

Bedford, Blount, Bradley, Claiborne, Cumberland, Davison, Decatur, Franklin, Hamilton, Hancock, Hardin, Hawkins, Hickman, Knox, Lawrence, Lincoln, Loudon, Marion, Marshall, Maury, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sequatchie, Smith, Sullivan, Trousdale, Wayne, and Williamson

TEXAS (Texas, 713-229-3681 or 817-334-2961)

Brewster, Comal, Hays, Jeff Davis, Menard, Pecos, and Reeves

UTAH (Salt Lake City, Utah, 801-524-4430)

Utah and Washington

VIRGINIA (Annapolis, Maryland, 301-269-5448)

Augusta, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise

WISCONSIN (Green Bay, Wisconsin, 414-465-2682)

Crawford, Grant, Iowa, Pierce, Polk, Richland, St. Croix, and Vernon

WYOMING (Helena, Montana, 406-449-5225)

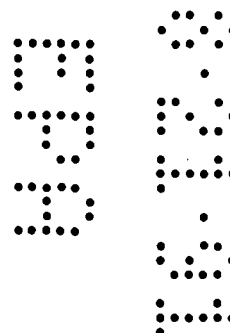
Lincoln and Sublette



CYANAMID

American Cyanamid Company
Agricultural Division
VPC Ventures
Wayne, NJ 07470

©1987



ABATE[®] 2-CG

insecticide

FOR CONTROL OF MOSQUITO AND MIDGE LARVAE

Active Ingredient:
 Temephos (O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl phosphorothioate) 2%
 Inert Ingredients 98%
 Total 100%

EPA Reg. No. 241-151AA

EPA Est. No. 8329-1L-01

KEEP OUT OF REACH OF CHILDREN CAUTION

See Below For Additional Precautionary Statements

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Flush with plenty of water. Get medical attention.

If on Skin: Wash with plenty of soap and water after handling. Get medical attention if irritation persists.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUCION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Avoid breathing dust. May cause eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Do not contaminate food or feed products.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

Areas of Treatment	Insects (Larvae)	Lbs./Acre	Application
Standing water, shallow ponds, lakes, woodland pools, catch basins	Mosquito and Midge	2.5-5	Apply uniformly by air or ground equipment. Repeat applications as necessary.
Tidal waters, marshes, swamps and water high in organic content		10	
Highly polluted waters		25	
Marsh lands, margins of streams, intertidal zones of sandy beaches	Gnat Punkie Sandfly	5-10	Apply uniformly by ground or air equipment. Repeat applications as necessary.

Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential or commercial damages such as loss of profits or values or any other special or indirect damages.

American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

*Registered trademark of American Cyanamid Company

Net Contents: 25 Lbs.

24680-20

7-D-42
9/87

ENDANGERED SPECIES RESTRICTIONS

Before using this product to control or eradicate mosquito larvae in a county listed below, you must contact the Endangered Species Specialist in the Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. You must provide FWS with your name and phone number, the product you intend to use, and the specific location in which you intend to use it. The U.S. Fish and Wildlife Service will inform you whether your proposed use is in the range of endangered species. Use of this product in the range of endangered species, as defined for you by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ALABAMA (Jackson, Mississippi, 601-965-4900)
Colbert, Greene, Jackson, Jefferson, Lamar, Lauderdale, Limestone, Madison, Marshall, Morgan, Pickens, and Sumter

ARIZONA (Phoenix, Arizona, 602-261-4720)
Graham, Lapaz, Mohave, Pima, Pinal, Santa Cruz, and Yuma

ARKANSAS (Jackson, Mississippi, 601-965-4900)
Benton, Clark, Clay, Cross, Lawrence, Lee, Poinsett, Polk, Randolph, Sharp, and St. Francis

CALIFORNIA (Sacramento, California, 916-978-4613)
Alameda, Colusa, Contra Costa, Humboldt, Imperial, Inyo, Los Angeles, Marin, Merced, Modoc, Mono, Monterey, Napa, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Sutter, and Ventura

DISTRICT OF COLUMBIA (Annapolis, Maryland, 301-269-5448)
Rock Creek Park

FLORIDA (Jacksonville, Florida, 904-791-2580)
Alachua, Baker, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Columbia, Dade, De Soto, Dixie, Duval, Flagler, Gadsden, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Madison, Manatee, Marion, Martin, Monroe, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, St. Johns, St. Lucie, Sarasota, Seminole, Sumter, Suwanee, Taylor, Union, Volusia, Wakulla, and Walton

GEORGIA (Jacksonville, Florida, 904-791-2580)
Brantley, Bryan, Bulloch, Burke, Camden, Candler, Catoosa, Charlton, Chatham, Effingham, Emanuel, Evans, Glascock, Glynn, Jefferson, Jenkins, Johnson, Liberty, Long, McIntosh, Pierce, Richmond, Screven, Ware, Washington, and Wayne

HAWAII (Honolulu, Hawaii, 808-546-5608)
Islands of Hawaii, Kauai, Maui, Molokai, Niihau, and Oahu

IDAHO (Boise, Idaho, 208-334-1806, Ext. 16)
Caribou, Bear Lake, and Bonneville

ILLINOIS (Rock Island, Illinois, 309-793-5800)
Gallatin, Henderson, Jo Daviess, Massac, Mercer, Pike, Pulaski, Rock Island

INDIANA (Bloomington, Indiana, 812-334-4261)
DeKalb and Posey

IOWA (St. Paul, Minnesota, 612-725-7131)
Allakamee, Clayton, Clinton, Des Moines, Dubuque, Fayette, Jackson, Louisa, Muscatine, and Scott

KANSAS (Grand Island, Nebraska, 308-381-5571)
Clark, Comanche, Meade, and Stafford

KENTUCKY (Asheville, North Carolina, 704-259-0321)
Ballard, Butler, Edmonson, Green, Hart, Jackson, Laurel, Livingston, Marshall, McCracken, McCreary, Pulaski, Rockcastle, Warren, and Wayne

MARYLAND (Annapolis, Maryland, 301-269-5448)
Harford

MINNESOTA (St. Paul, Minnesota, 612-725-7131)
Houston and Washington

MISSISSIPPI (Jackson, Mississippi, 601-965-4900)
Claiborne, Copiah, Hinds, Itawamba, Jackson, Lowndes, Monroe, and Noxubee

MISSOURI (Columbia, Missouri, 314-875-5374)
Barry, Benton, Bollinger, Butler, Camden, Cedar, Christian, Cole, Dallas, Franklin, Gasconade, Greene, Hickory, Jasper, Jefferson, Lawrence, Massac, Miller, Newton, Osage, Polk, Ralls, Ripley, St. Clair, St. Louis, Stone, and Wayne

NEBRASKA (Grand Island, Nebraska, 308-381-5571)
Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Dawson, Dodge, Douglas, Hall, Hamilton, Holt, Howard, Kearney, Keya Paha, Knox, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, and Saunders

NEVADA (Reno, Nevada, 702-784-5227)
Clark, Lincoln, Nye, and White Plain

NEW MEXICO (Albuquerque, New Mexico, 505-566-2323)
Chaves, Eddy, and Socorro

NORTH CAROLINA (Asheville, North Carolina, 704-259-0321)
Edgecombe, Macon, Nash, Pitt, and Swain

NORTH DAKOTA (Grand Island, Nebraska, 308-381-5571)
Burleigh, Emmons, McKensie, Mclean, Mercer, Morton, and Oliver

OHIO (Columbus, Ohio, 614-231-3416)
Pickaway, Washington, and Williams

OKLAHOMA (Tulsa, Oklahoma, 918-581-7458)
McCurtain and Pushmataha

OREGON (Olympia, Washington, 206-753-9444)
Lake

SOUTH CAROLINA (Asheville, North Carolina, 704-259-0321)
Aiken, Barnwell, Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, and Marion

SOUTH DAKOTA (Pierre, South Dakota, 605-224-8692)
Hughes and Yankton

TENNESSEE (Asheville, North Carolina, 704-259-0321)
Bedford, Blount, Bradley, Claiborne, Cumberland, Davison, Decatur, Franklin, Hamilton, Hancock, Hardin, Hawkins, Hickman, Knox, Lawrence, Lincoln, Loudon, Marion, Marshall, Maury, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sequatchie, Smith, Sullivan, Trousdale, Wayne, and Williamson

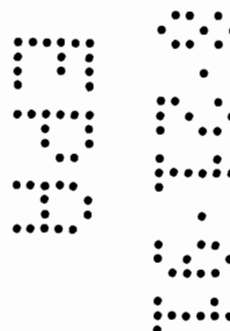
TEXAS (Texas, 713-229-3681 or 817-334-2961)
Brewster, Comal, Hays, Jeff Davis, Menard, Pecos, and Reeves

UTAH (Salt Lake City, Utah, 801-524-4430)
Utah and Washington

VIRGINIA (Annapolis, Maryland, 301-269-5448)
Augusta, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise

WISCONSIN (Green Bay, Wisconsin, 414-465-2682)
Crawford, Grant, Iowa, Pierce, Polk, Richland, St. Croix, and Vernon

WYOMING (Helena, Montana, 406-449-5225)
Lincoln and Sublette



ABATE[®] 5-CG

insecticide

FOR CONTROL OF MOSQUITO AND MIDGE LARVAE

Active Ingredient:

Temephos (O,O'-(thiodi-4,1-phenylene) O,O',O',O'-tetramethyl phosphorothioate) 5%

Inert Ingredients 95%

Total 100%

EPA Reg. No. 241-150AA

EPA Est. No. 6720-FL-01

**KEEP OUT OF REACH OF
CHILDREN
DANGER/PELIGRO**

See Below For Additional Precautionary Statements

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes.

If Swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Avoid alcohol. Do not induce vomiting or give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

In case of an emergency endangering life or property involving this product, call collect, day or night,
Area Code 201-835-3100.

DANGER

Corrosive: Causes irreversible eye damage. Do not get in eyes or on clothing. Wear goggles. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

For control of mosquito and midge larvae, apply ABATE 5-CG as specified below:

Areas of Treatment	Lbs. Per Acre
Standing water, shallow ponds, lakes, woodland pools	2
Tidal waters, marshes, swamps and waters high in organic content	4
Highly-polluted waters	10

May be applied as a spot treatment to catch basins and similar areas where mosquitoes may breed.

Apply uniformly and repeat applications as necessary. Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values or any other special or indirect damages.

American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.



American Cyanamid Company
Agricultural Division
VPC Ventures
Wayne, NJ 07470

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® Registered trademark of American Cyanamid Company

Net Contents: 25 lbs.

PE-4078 Rev. #3 4/88 DLEM

24686-01 73-43
4/88

ABATE® 4-E

insecticide

FOR CONTROL OF MOSQUITO LARVAE

Active Ingredient:

Temephos (0,0'-(thiodi-4,1-phenylene) 0,0,0',0'-tetramethyl phosphorothioate) 44.6%

Inert Ingredients* 55.4%

Total 100.0%

(1 gallon contains 4 lbs. of Temephos)

*contains petroleum distillate

EPA Reg. No. 241-132AA

EPA Est. No. 8590-PA-1

KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

See Side Panel For Additional Precautionary Statements

STATEMENT OF PRACTICAL TREATMENT

If Swallowed: Do not induce vomiting. Get medical attention.

If in Eyes: Flush with plenty of water. Get medical attention.

If on Skin: Wash with plenty of soap and water after handling. Get medical attention if irritation persists.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

Harmful if swallowed or absorbed through skin. Causes skin and eye irritation. Wash thoroughly with soap and water after handling. Avoid breathing spray mist. Do not contaminate food or feed products.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes. This product is toxic to bees and should not be applied when bees are actively visiting the treatment area.

STORAGE AND DISPOSAL

PROHIBITIONS: Do Not contaminate water, food, or feed by storage or disposal. Do not use or store near heat or open flame.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities by burning. If burned stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

*Registered trademark of American Cyanamid Company

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

MOSQUITO LARVAE CONTROL

Apply ABATE 4-E as a uniform spray in sufficient water for good coverage at the rate of 0.5 to 1.5 fluid ounces per acre. Apply to standing water, moist areas, woodland pools, shallow ponds, around the edges of lakes, swamps, marshes, tidal waters, and catch basins. Use 0.5 fluid ounces per acre in clean open water and 1.0 to 1.5 fluid ounces per acre in waters high in organic matter content. The higher rate should be used in areas known to have organophosphate resistant mosquitoes. Repeat applications as necessary.

Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

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American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

In case of an emergency endangering life or property involving this product, call collect, day or night,
Area Code 201-835-3100.

ENDANGERED SPECIES RESTRICTIONS

Before using this product to control or eradicate mosquito larvae in a county listed below, you must contact the Endangered Species Specialist in the Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. You must provide FWS with your name and phone number, the product you intend to use, and the specific location in which you intend to use it. The U.S. Fish and Wildlife Service will inform you whether your proposed use is in the range of endangered species. Use of this product in the range of endangered species, as defined for you by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

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ARIZONA (Phoenix, Arizona, 602-261-4720)
Graham, Lapaz, Mohave, Pima, Pinal, Santa Cruz, and Yuma

ARKANSAS (Jackson, Mississippi, 601-965-4900)
Benton, Clark, Clay, Cross, Lawrence, Lee, Poinsett, Polk, Randolph, Sharp, and St. Francis

CALIFORNIA (Sacramento, California, 916-978-4613)
Alameda, Colusa, Contra Costa, Humboldt, Imperial, Inyo, Los Angeles, Marin, Merced, Modoc, Mono, Monterey, Napa, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Sutter, and Ventura

DISTRICT OF COLUMBIA (Annapolis, Maryland, 301-269-5448)
Rock Creek Park

FLORIDA (Jacksonville, Florida, 904-791-2580)
Alachua, Baker, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Columbia, Dade, De Soto, Dixie, Duval, Flagler, Gadsden, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Madison, Manatee, Marion, Martin, Monroe, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, St. Johns, St. Lucie, Sarasota, Seminole, Sumter, Suwanee, Taylor, Union, Volusia, Wakulla, and Walton

GEORGIA (Jacksonville, Florida, 904-791-2580)
Brantley, Bryan, Bulloch, Burke, Camden, Candler, Catoosa, Charlton, Chatham, Effingham, Emanuel, Evans, Glascock, Glynn, Jefferson, Jenkins, Johnson, Liberty, Long, McIntosh, Pierce, Richmond, Screven, Ware, Washington, and Wayne

HAWAII (Honolulu, Hawaii, 808-546-5608)
Islands of Hawaii, Kauai, Maui, Molokai, Niihau, and Oahu

IDAHO (Boise, Idaho, 208-334-1806, Ext. 16)
Caribou, Bear Lake, and Bonneville

ILLINOIS (Rock Island, Illinois, 309-793-5800)
Gallatin, Henderson, Jo Daviess, Massac, Mercer, Pike, Pulaski, Rock Island

INDIANA (Bloomington, Indiana, 812-334-4261)
DeKalb and Posey

IOWA (St. Paul, Minnesota, 612-725-7131)
Allakamee, Clayton, Clinton, Des Moines, Dubuque, Fayette, Jackson, Louisa, Muscatine, and Scott

KANSAS (Grand Island, Nebraska, 308-381-5571)
Clark, Comanche, Meade, and Stafford

KENTUCKY (Asheville, North Carolina, 704-259-0321)
Ballard, Butler, Edmonson, Green, Hart, Jackson, Laurel, Livingston, Marshall, McCracken, McCreary, Pulaski, Rockcastle, Warren, and Wayne

MARYLAND (Annapolis, Maryland, 301-269-5448)
Harford

MINNESOTA (St. Paul, Minnesota, 612-725-7131)
Houston and Washington

MISSISSIPPI (Jackson, Mississippi, 601-965-4900)
Claiborne, Copiah, Hinds, Itawamba, Jackson, Lowndes, Monroe, and Noxubee

MISSOURI (Columbia, Missouri, 314-875-5374)
Barry, Benton, Bollinger, Butler, Camden, Cedar, Christian, Cole, Dallas, Franklin, Gasconade, Greene, Hickory, Jasper, Jefferson, Lawrence, Massac, Miller, Newton, Osage, Polk, Ralls, Ripley, St. Clair, St. Louis, Stone, and Wayne

NEBRASKA (Grand Island, Nebraska, 308-381-5571)
Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Dawson, Dodge, Douglas, Hall, Hamilton, Holt, Howard, Kearney, Keya Paha, Knox, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, and Saunders

NEVADA (Reno, Nevada, 702-784-5227)
Clark, Lincoln, Nye, and White Plain

NEW MEXICO (Albuquerque, New Mexico, 505-566-2323)
Chaves, Eddy, and Socorro

NORTH CAROLINA (Asheville, North Carolina, 704-259-0321)
Edgecombe, Macon, Nash, Pitt, and Swain

NORTH DAKOTA (Grand Island, Nebraska, 308-381-5571)
Burleigh, Emmons, McKensie, McLean, Mercer, Morton, and Oliver

OHIO (Columbus, Ohio, 614-231-3416)
Pickaway, Washington, and Williams

OKLAHOMA (Tulsa, Oklahoma, 918-581-7458)
McCurtain and Pushmataha

OREGON (Olympia, Washington, 206-753-9444)
Lake

SOUTH CAROLINA (Asheville, North Carolina, 704-259-0321)
Aiken, Barnwell, Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, and Marion

SOUTH DAKOTA (Pierre, South Dakota, 605-224-8692)
Hughes and Yankton

TENNESSEE (Asheville, North Carolina, 704-259-0321)
Bedford, Blount, Bradley, Claiborne, Cumberland, Davison, Decatur, Franklin, Hamilton, Hancock, Hardin, Hawkins, Hickman, Knox, Lawrence, Lincoln, Loudon, Marion, Marshall, Maury, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sequatchie, Smith, Sullivan, Trousdale, Wayne, and Williamson

TEXAS (Texas, 713-229-3681 or 817-334-2961)
Brewster, Comal, Hays, Jeff Davis, Menard, Pecos, and Reeves

UTAH (Salt Lake City, Utah, 801-524-4430)
Utah and Washington

VIRGINIA (Annapolis, Maryland, 301-269-5448)
Augusta, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise

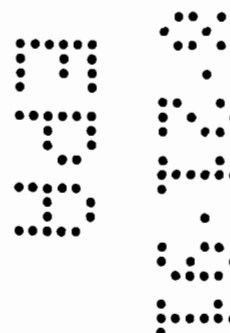
WISCONSIN (Green Bay, Wisconsin, 414-465-2682)
Crawford, Grant, Iowa, Pierce, Polk, Richland, St. Croix, and Vernon

WYOMING (Helena, Montana, 406-449-5225)
Lincoln and Sublette



Agricultural Division
VPC Ventures
Wayne, NJ 07470

© 1987



Pat Quarles.

File

ATTACHED NOTIFICATION

TO: PM File Room
FROM: ¹⁸ REG. SUPPORT BR.

match-18

NO NEW LABEL _____

EPA REG. NO. 2724-446

NEW LABEL ATTACHED ☒

COMPANY NAME _____

NEW CSF ATTACHED _____

☒ THIS IS AN ADDITIONAL BRAND NAME

_____ THIS IS A CSF PERMITTED UNDER PR NOTICE 88-6

_____ THIS IS A LABEL CHANGE PERMITTED UNDER PR NOTICE 88-6

_____ THIS WAS SENT TO SIG FOR CODING AND/OR MICROFICHING

☒ FILE IN JACKET



United States Environmental Protection Agency
Office of Pesticide Programs (TS-767)
Washington, DC 20460

Application for Pesticide: ☒ Registration ☐ Amendment

OPP Identifier Number

143321

Section I

1. Company/Product Number 2724-446	2. Date 14 May 1991	3. Product Manager Phil Hutton - PM18	4. Proposed Classification <input checked="" type="checkbox"/> General <input type="checkbox"/> Restricted
---------------------------------------	------------------------	--	---

5. Name and Address of Applicant (Include ZIP Code)

Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, TX 75234

☐ Check if this is a new address

6. Product Name

Zoecon RF-379 Mosquito Growth Regulator SR-20

Section II - Amendment Information

1. Subject

☐ Resubmission in response to Agency letter ☐ Final printed label in response to Agency letter ☒ Other (explain below)

Date of Letter

Name Change to Zoecon RF-437 Mosquito Growth Regulator SR-20

NO DATA

Section III

1. Material This Product Will Be Packaged In

Child-Resistant Packaging

☐ Yes ☒ No

Unit Packaging

☐ Yes ☒ No

If "Yes,"

Unit package wgt No. per container

Water-Soluble Packaging

☐ Yes ☒ No

If "Yes,"

Package weight No. per container

2. Type of Container

☒ Metal
☒ Plastic
☐ Glass
☐ Paper
☐ Other (Specify)

3. Location of Net Contents Information

☒ Label ☐ Container

4. Size(s) of Retail Container

1 oz to 55 gallons

5. Location of Label Directions

☒ On Label
☒ On material accompanying product

6. Manner in Which Label is Affixed To Product

☐ Lithograph ☐ Other (Specify)
☒ Paper glued
☐ Stenciled

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application).

Name

Kelly J. Parker

Title

Regulatory Specialist

Telephone No. (Include Area Code)

214/885-8726

6. Date Application Received (Stamped)

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature

Kelly J. Parker

3. Title

Regulatory Specialist

4. Typed Name

Kelly J. Parker

5. Date Signed

14 May 1991

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

1. Offer to Pay Statement (EPA Form 8570-27, -28, -29). (If not exempted by 40 CFR 162.9-1(b).)
2. Confidential Statement of Formula (EPA Form 8570-4).
3. Five copies of draft labeling.
4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

1. **Company/Product Number** - Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
2. **Date** - Fill in the appropriate date.
3. **Product Manager** - If known, fill in the name and number of the Product Manager.
4. **Proposed Classification** - Specify the proposed classification for this product.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

1. **Subject of Amendment** - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
6. EPA Use Only.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas [larvae] up to 8 weeks
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]

INERT INGREDIENTS: 20.0%
80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid *Bacillus thuringiensis* variety *israeliensis* (B.t.i.) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex,] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0591-C:0145E

EPA Est
© 1989 Zoecon
Made in U.S.A.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate. No warranty or guarantee, express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.)
0.5 lbs. HiSil 233 (silicon dioxide)
Small Funnel
Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

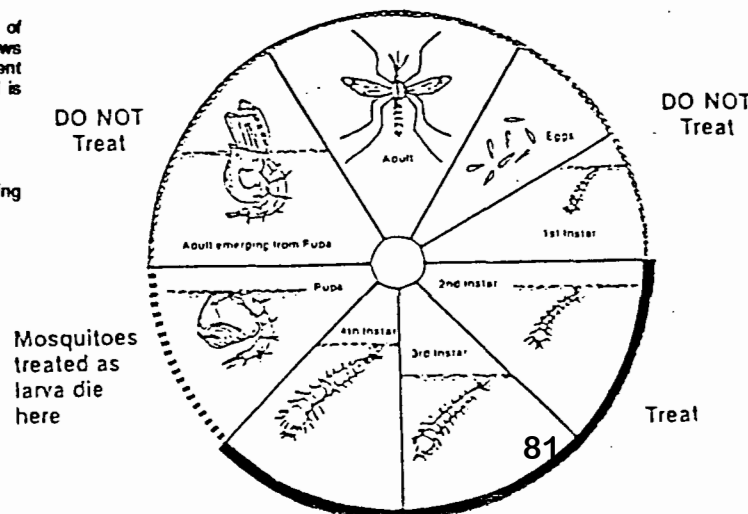
DO the following:

1. DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days. Since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.

0192E

0192E

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

14 May 1991

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Office of Pesticide Programs (H7505C)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator SR-20
EPA Reg. No. 2724-446
Name Change

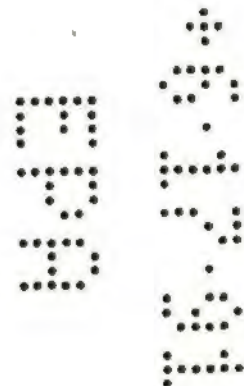
Dear Mr. Hutton:

For accounting purposes at Zoecon, we need to change the name of this product from Zoecon RF-379 Mosquito Growth Regulator SR-20 to Zoecon RF-437 Mosquito Growth Regulator SR-20. This is the only change proposed at this time.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512



TO PRODUCT MANAGER

DATE:

18
8-28-91

"Cl with Laura"

EFFICACY

2724-446

FAST - TRACK ACTION

This action has been determined to be a fast-track action by the feps and must be entered in the OLTS using one of the following codes:

- 160 - Application for "me-too" registration
- 170 - Application for registration - old chemical - "Me-too" with additional use.
- 300 - Amendment - label revision - administrative (no data required).
- 305 - Amendment - label revision - data required does not need HED/EFED review.
- 310 - Amendment - added "me-too" Use - no HED/EFED review needed.
- 345 - Formula change - no HED/EFED review required.

LAD (WHN)
300

08/27/91

KELLY J. PARKER
ZOECON CORPORATION
12200 DENTON DRIVE
DALLAS TX 75234

Product Name: RF-437 MOSQUITO GROWTH REGULAR SR-20
Company Name: ZOECON CORPORATION
Application No.: 168980
EPA Reg. No.: 2724-446
EPA Receipt Date: 08/21/91

Subject: Front End Screen for an Amendment

Dear Sir or Madam:

Your application for registration has been received by the Office of Pesticide Programs and has passed a preliminary screen for completeness. It will be placed in line for review to determine its acceptability. The application will be processed in chronological order of receipt.

Although the 1988 FIFRA amendments mandate EPA to review applications for expedited registration or amendments within 90 days, this turnaround time will not be met immediately due to the backlog of applications received before December 24, 1988. However, EPA is increasing human and automated resources and making necessary procedural changes in order to eliminate the backlog and to meet the 90-day response time as soon as possible.

If you have any questions, you may contact Phil Hutton, Product Manager 18, at (703)-557-2690.

Sincerely,

Edith Hutton
Team Leader
Front End Processing Staff
Registration Support Branch
Registration Division (H7504C)

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

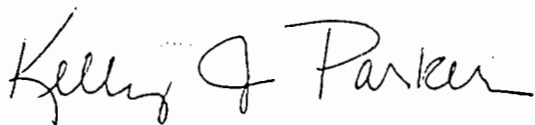
RE: Request for a Waiver of Analysis of Samples
All End-Products and Manufacturing-Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of the analysis of samples, Guideline 151B-13, for all end-products and manufacturing-products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

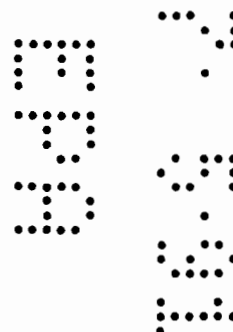
These products are not technical active ingredients and they are not produced by an integrated system; therefore, this requirement is not applicable.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific
ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific
ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific
ID# 2724-RD-29

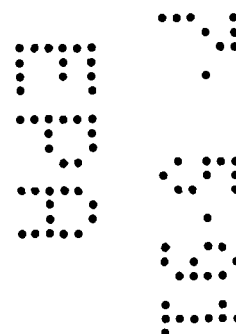
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Melting Point
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of melting point, Guideline 151B-17(d), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

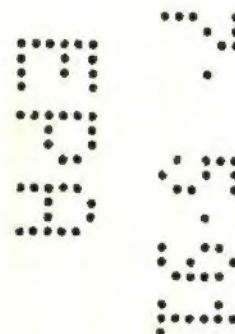
This requirement is only applicable for technical grade active ingredients that are solid at room temperature. Methoprene is a liquid at room temperature; therefore, this requirement does not apply to any product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Methoprene, EPA Reg. No. 2724-441 - Product Specific ID# 2724-RD-56

(S)-Methoprene Technical, EPA Reg. No. 2724-442 - Product Specific ID# 2724-RD-51

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

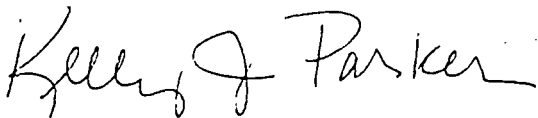
RE: Request for a Waiver of Boiling Point
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of boiling point, Guideline 151B-17(e), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

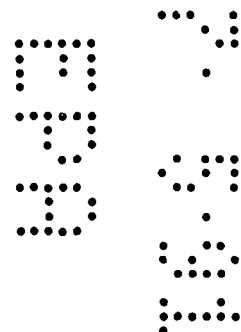
This requirement is only applicable for technical grade active ingredients that are liquid at room temperature. The boiling point for Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

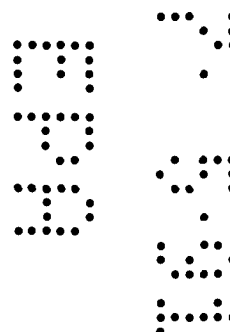
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

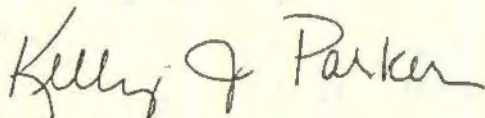
RE: Request for a Waiver of Solubility
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of solubility, Guideline 151B-17(g), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

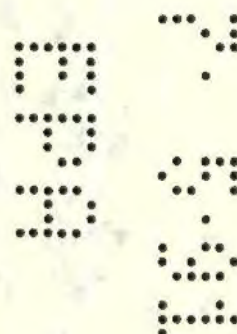
This requirement is only applicable for technical grade active ingredients. The solubility of Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

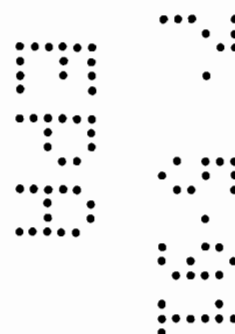
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

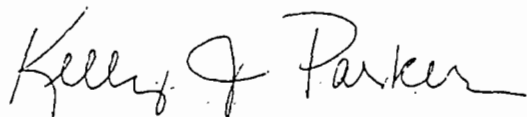
RE: Request for a Waiver of Vapor Pressure
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of vapor pressure, Guideline 151B-17(h), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

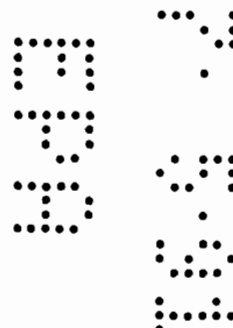
This requirement is only applicable for active ingredients. The vapor pressure for Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific
ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific
ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific

ID# 2724-RD-29

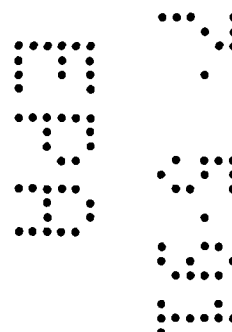
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Stability
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of stability, Guideline 151B-17(j), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

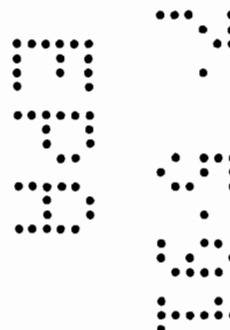
This requirement is only applicable for technical grade active ingredients. The stability of Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any product contained in the Methoprene RED.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific
ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific
ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific

ID# 2724-RD-29

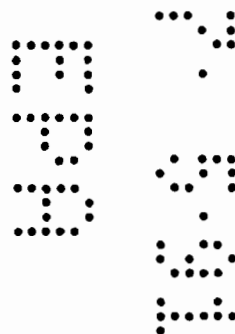
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

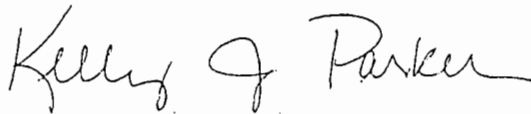
RE: Correspondence for Storage Stability and Corrosion Characteristics
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation conducts these studies together; therefore, the attached requests for extension of submitting storage stability data also apply to the corrosion characteristics portion of the study. We apologize for any inconvenience this oversight may have caused.

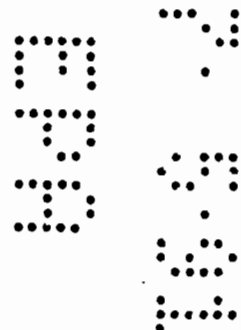
These requests are resubmitted here because we haven't received a response from EPA.

Best regards,



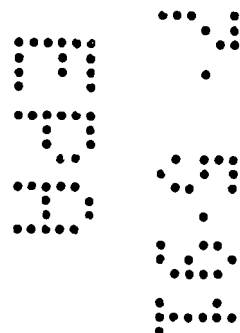
Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25
Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34
Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36
Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42
Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48
Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50
Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific
ID# 2724-RD-439
Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23
ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28
Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific
ID# 2724-RD-29
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30
Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31
ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33
Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49
Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

20 May 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for an Extension of Storage Stability Data
Guideline 151B-17(I)
Product Specific ID# 2724-RD-?? (we didn't receive a response form for this product)
EPA Reg. No. 2724-446

Dear Mr. Nelson:

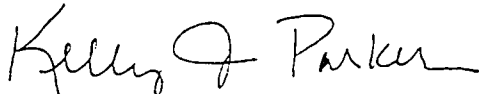
Zoecon Corporation respectfully requests an extension for submission of storage stability data for the subject product. We would like to submit a final report for this study in October 1992.

According to FIFRA as amended in 1988, there is no legislated timeframe for submission of product specific data for List A products (although Lists B, C, and D are subject to the 8 month rule); therefore, the length of our requested extension should pose no regulatory problem. For storage stability studies, EPA currently requires 3 lots, 3 temperatures, and 1 year's worth of GLP data. In the best of circumstances, this is unachievable within 8 months.

According to 40 CFR § 160.29(c), "There shall be a sufficient number of personnel for the timely and proper conduct of the study according to the protocol." Considering all of the GLP storage stability studies required by the Methoprene RED, Zoecon would need to hire 50 more people to conduct the studies, as well as the inherent need to build more stability storage space. I've been told by management that these are not viable options. We have come up with a schedule that would allow Zoecon to comply with the RED by conducting the stability studies in shifts. This will also allow Zoecon to remain in compliance with § 160.29(c) and allow us to use available storage space.

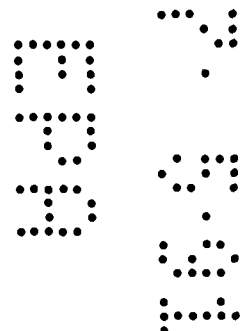
Please let me know as soon as possible whether our request for an extension has been granted.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Karen Samek, SRRD, EPA



Zoecon Corporation
A SANDOZ Company
12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Miscibility
All Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of miscibility, Guideline 151B-17(n), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

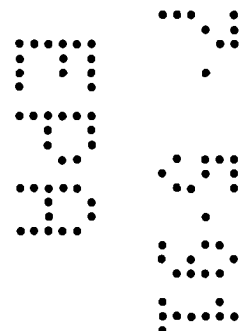
This requirement is only applicable for emulsifiable liquids intended to be diluted with petroleum solvents. Although we do have emulsifiable liquids, they are not diluted with petroleum solvents; therefore, this requirement does not apply to any product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific

ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Methoprene, EPA Reg. No. 2724-441 - Product Specific ID# 2724-RD-56

(S)-Methoprene Technical, EPA Reg. No. 2724-442 - Product Specific ID# 2724-RD-51

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific

ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific

ID# 2724-RD-29

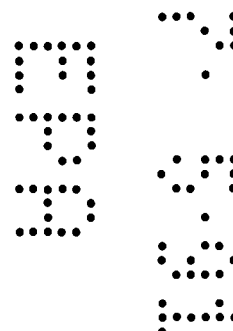
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

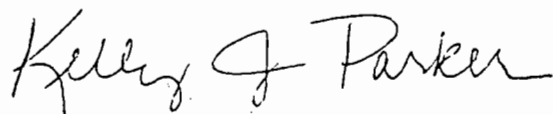
RE: Request for a Waiver of Oct/Water Partition Coefficient Data
All End-Use Products Listed in the RED
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon respectfully requests a waiver of Octanol/Water Partition Coefficient Data, Guideline Number 151B-17(p) for all end-use products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

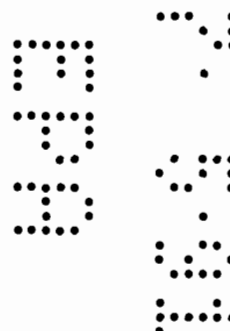
We understand that this requirement was part of the generic data requirement for the technical grade active ingredient. Data are being generated on the active ingredient and will be submitted by the April 1992 deadline. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



Products

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25

Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34

Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36

Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41

Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50

Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27

ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28

Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

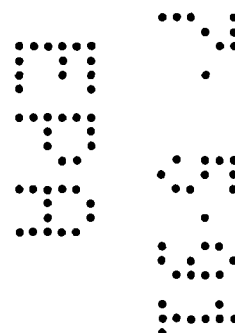
Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30

Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31

ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

10 May 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for an Extension of Inhalation Toxicology Data
Request for a Meeting
Product Specific ID# 2724-RD-?? (We didn't receive a response form for
this product; therefore, we can't give you the ID#.)
EPA Reg. No. 2724-446

Dear Mr. Nelson:

Zoecon Corporation respectfully requests an extension for submission of inhalation toxicology data for the subject product. Further, we would like to meet with individuals within SRRD, RD and HED of EPA who can authorize policy changes with respect to inhalation toxicology.

First of all, the EPA appears to be taking a hard stand on the tox grouping of methoprene products. What was acceptable to the Agency even three years ago appears not acceptable today...especially accepting (R,S)-Methoprene data as relevant to (S)-Methoprene data.

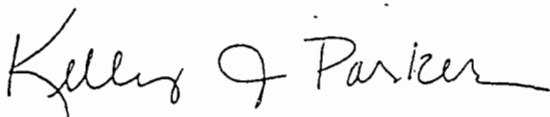
Secondly, we don't understand the absurdness of the required inhalation studies, both what is required to be tested and, most absurd, how it is to be tested. The limit test which meets current guidelines of 5 mg test material/L of air is impossible to achieve when trying to comply with the SEP which requires that at least 25% of the particles must have a MMAD $\leq 1 \mu$. The two "requirements" are mutually exclusive. One laboratory has told us that to achieve both requirements, they do two separate limit tests and hope that EPA can merge the results. This means that the lab requires the sponsor to provide a minimum of 5 kg of test material, as 95% of it will be wasted trying to generate such small particles, as well as obtaining maximum chamber concentrations.

Thirdly, these requirements are cost prohibitive. To generate 5 kg of test material (only for an inhalation toxicology study), could require an unscheduled production run for the active ingredient and/or the end-products. (S)-Methoprene is one of the most expensive active ingredients to manufacture. Two limit studies to reach one conclusion is also costly (our estimate is \$10,000 per limit study, assuming only animal exposure and reduced particle size generation by the laboratory). Analytical costs should also be included in this estimate; however, Zoecon has traditionally conducted the analytical work in-house.

Finally, these requirements are also time prohibitive. The limiting factors include 1) amount of test material required, 2) the chemist's time required to characterize beginning material, to validate the method, and to analyze the chamber samples, 3) laboratory availability (frequently scheduling is required months in advance). Because of the analytical burden of the RED for the product chemistry portion, the analytical work for the inhalation toxicology may be conducted at the inhalation laboratory. This would further increase the time necessary to conduct inhalation studies. All inhalation studies would be conducted at the same laboratory to negate the need for duplicative analytical work. To get on a laboratory master schedule to conduct several studies at once would automatically put us in violation of the 21 November 1991 deadline.

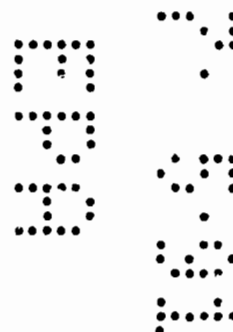
Zoecon requests the time of submission be contingent upon how long it takes EPA to resolve these policy issues. The Society of Toxicology is currently working as a group to suggest changes to this policy; therefore, it seems that this is not only a Zoecon request for a change, but a science- and industry-wide request. We would be happy to set up a room at our hotel to meet with Agency officials. Please let me know when you can schedule this meeting and also if our extension has been granted.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Anne Lindsay, RD, EPA
Phil Hutton, RD, EPA
Karen Samek, SRRD, EPA
Dr. Penelope Fenner-Crisp, HED, EPA
Dr. Reto Engler, HED, EPA
Dr. Judith Graham, R&D, EPA (Research Triangle)



Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Product Performance Data
Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of product performance data for the products listed below.

The requirement as listed in the Methoprene RED states that Guideline 95-10(b)(1): product performance for mosquitoes in cesspools, septic tanks, and waste treatment settling ponds should be followed. We will delete these sites from our labels, thus making the requirement not applicable to this product. Revised labels will be submitted prior to the 11/21/91 deadline.

EPA Reg. No.

Product Specific ID#

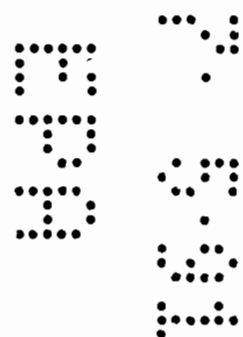
2724-375	2724-RD-33
2724-392	2724-RD-41
2724-393	2724-RD-42
2724-446	2724-RD-439
2724-448	2724-RD-52
2724-421	2724-RD-49


Best regards,

Kelly J. Parker

Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Phil Hutton, RD, EPA
Dick King, SRRD, EPA



(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration	OPP Identifier Number 155773
		<input checked="" type="checkbox"/> Amendment	
Application for Pesticide:		<input checked="" type="checkbox"/> Other	

Section I

1. Company/Product Number 2724-446	2. EPA Product Manager Willie Nelson	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-20	PM# RD-0030	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Response to Agency Letter 4/10/92.

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) of Retail Container 1 oz. to 55 Gallons	5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other (_____)	

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Kelly J. Parker	Title Regulatory Specialist	Telephone No. (Include Area Code) 214/888-8720
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Specialist	
4. Typed Name Kelly J. Parker	5. Date 11 May 1992	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your **Company Number**, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the **Product Number**.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of Submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

DP BARCODE: D176369

CASE: 028442
SUBMISSION: S415050

DATA PACKAGE RECORD
BEAN SHEET

DATE: 03/31/92
Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 674 8 MNTH RESP-PROD SPC DATA
CHEMICALS: 105402 S-Methoprene Isopropyl-11-methoxy (2E,4E,7S)-3,7,1 20.0000%
ID#: 002724-00446 ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20
COMPANY: 002724 ZOECON CORPORATION
PRODUCT MANAGER: 18 PHILLIP HUTTON 703-305-7690 ROOM: CM2 213
PM TEAM REVIEWER: WILLIE NELSON 703-305-6601 ROOM: CM2 209
RECEIVED DATE: 10/10/91 DUE OUT DATE: 04/07/92

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 176369 EXPEDITE: Y DATE SENT: 03/31/92 DATE RET.: / /
CHEMICAL: 105402 S-Methoprene Isopropyl-11-methoxy (2E,4E,7S)-3,7,11-trimeth
DP TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 06/29/92 CSF: Y LABEL: Y

ASSIGNED TO	DATE	IN	DATE	OUT
DIV : RD	/	/	/	/
BRAN: RSB	/	/	/	/
SECT: PRS	/	/	/	/
REVR :	/	/	/	/
CONTR:	/	/	/	/

* * * DATA REVIEW INSTRUCTIONS * * *

TOM, PLEASE REVIEW THIS INFORMATION FOR FIFRA.

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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[WAC2]

Admin

406

WHP



(A) United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	Application for Pesticide: <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px;"> <input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> OPP Identifier Number 155773 </div> </div>
--	--

Section I

1. Company/Product Number 2724-446	2. EPA Product Manager Willie Nelson	3. Proposed Classification <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted </div>
4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-20	PM# RD-0030	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section II

<input type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<div style="border: 1px solid black; padding: 2px;"> <input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input checked="" type="checkbox"/> Other - explain below. </div>
--	--

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Response to Agency Letter 4/10/92.

Section III

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Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
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6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Other (_____) <input type="checkbox"/> Stenciled			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Kelly J. Parker	Title Regulatory Specialist	Telephone No. (Include Area Code) 214/888-8720

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature 	3. Title Regulatory Specialist	6. Date Application Received (Stamped) <div style="font-size: 1.5em; font-weight: bold;">112</div>
4. Typed Name Kelly J. Parker	5. Date 11 May 1992	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
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- 1-5. Self-explanatory.
6. EPA Use Only.

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration	OPP Identifier Number 155776
		<input checked="" type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	

Section I

1. Company/Product Number 2724-452	2. EPA Product Manager Willie Nelson	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) APEX 5E Insect Growth Regulator	PM# RD-0030	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section II

<input type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Response to Agency Letter 4/10/92.

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
	If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container	<input type="checkbox"/> Plastic
					<input type="checkbox"/> Glass
					<input type="checkbox"/> Paper
					<input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.					
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container 1.25 liter & 2.5 liter		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product		
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other (_____)		

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Kelly J. Parker	Title Regulatory Specialist	Telephone No. (Include Area Code) 214/888-8726
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Specialist	
4. Typed Name Kelly J. Parker	5. Date 11 May 1992	

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

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2. Confidential Statement of Formula (EPA Form 8570-4);
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4. Five copies of draft labeling;
5. Three copies of any data submitted;
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2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
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	Application for Pesticide:		

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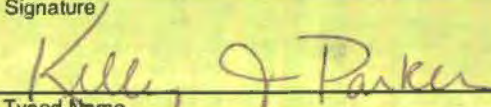
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GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

1091-C-0192E-RED

16-52-11

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

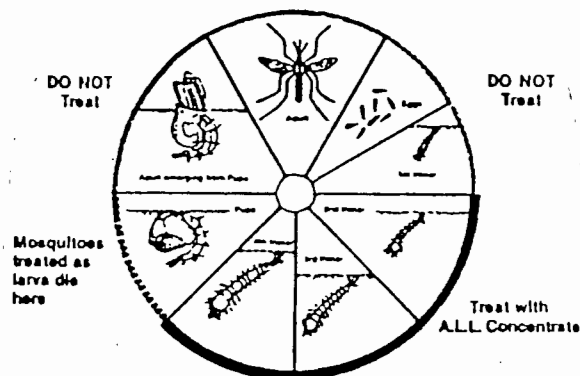
DO the following:

1. **DO** treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. **DO** wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. **DO** observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. **DO** monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. **DO NOT** take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. **DO NOT** take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. **DO NOT** think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. **DO NOT** spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz.)
0.5 lbs. Hsilil 233 (silicon dioxide)
Small Funnel
Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of Hsilil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hsilil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hsilil if it flows significantly slower and reduce the amount of Hsilil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 pounds of the final mixture per acre using standard granular dispersal equipment.

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's
Prevents emergence of adult fleas up to 8 weeks outdoors
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate].....

20.0%

INERT INGREDIENTS:.....

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex.] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0291-C:0193E

EPA Est
© 1989 Zoecon
Made in U.S.A.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

10 May 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

*6 (A) 2727
data in assay
with this product
5/11/92*

RE: Request for an Extension of Inhalation Toxicology Data
Request for a Meeting
Product Specific ID# 2724-RD-?? (We didn't receive a response form for
this product; therefore, we can't give you the ID#.)
EPA Reg. No. 2724-446

Dear Mr. Nelson:

Zoecon Corporation respectfully requests an extension for submission of inhalation toxicology data for the subject product. Further, we would like to meet with individuals within SRRD, RD and HED of EPA who can authorize policy changes with respect to inhalation toxicology.

First of all, the EPA appears to be taking a hard stand on the tax grouping of methoprene products. What was acceptable to the Agency even three years ago appears not acceptable today...especially accepting (R,S)-Methoprene data as relevant to (S)-Methoprene data.

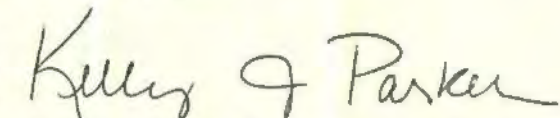
Secondly, we don't understand the absurdness of the required inhalation studies, both what is required to be tested and, most absurd, how it is to be tested. The limit test which meets current guidelines of 5 mg test material/L of air is impossible to achieve when trying to comply with the SEP which requires that at least 25% of the particles must have a MMAD $\leq 1 \mu$. The two "requirements" are mutually exclusive. One laboratory has told us that to achieve both requirements, they do two separate limit tests and hope that EPA can merge the results. This means that the lab requires the sponsor to provide a minimum of 5 kg of test material, as 95% of it will be wasted trying to generate such small particles, as well as obtaining maximum chamber concentrations.

Thirdly, these requirements are cost prohibitive. To generate 5 kg of test material (only for an inhalation toxicology study), could require an unscheduled production run for the active ingredient and/or the end-products. (S)-Methoprene is one of the most expensive active ingredients to manufacture. Two limit studies to reach one conclusion is also costly (our estimate is \$10,000 per limit study, assuming only animal exposure and reduced particle size generation by the laboratory). Analytical costs should also be included in this estimate; however, Zoecon has traditionally conducted the analytical work in-house.

Finally, these requirements are also time prohibitive. The limiting factors include 1) amount of test material required, 2) the chemist's time required to characterize beginning material, to validate the method, and to analyze the chamber samples, 3) laboratory availability (frequently scheduling is required months in advance). Because of the analytical burden of the RED for the product chemistry portion, the analytical work for the inhalation toxicology may be conducted at the Inhalation laboratory. This would further increase the time necessary to conduct inhalation studies. All inhalation studies would be conducted at the same laboratory to negate the need for duplicative analytical work. To get on a laboratory master schedule to conduct several studies at once would automatically put us in violation of the 21 November 1991 deadline.

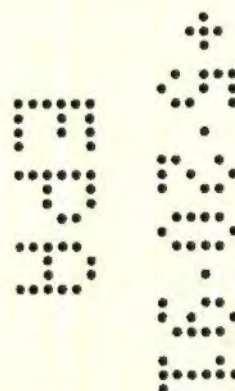
Zoecon requests the time of submission be contingent upon how long it takes EPA to resolve these policy issues. The Society of Toxicology is currently working as a group to suggest changes to this policy; therefore, it seems that this is not only a Zoecon request for a change, but a science- and industry-wide request. We would be happy to set up a room at our hotel to meet with Agency officials. Please let me know when you can schedule this meeting and also if our extension has been granted.


Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

CC: Anne Lindsay, RD, EPA
Phil Hutton, RD, EPA
Karen Samek, SRRD, EPA
Dr. Penelope Fenner-Crisp, HED, EPA
Dr. Reto Engler, HED, EPA
Dr. Judith Graham, R&D, EPA (Research Triangle)



(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 156411
	Application for Pesticide:		

Section I

1. Company/Product Number 2724-446	2. EPA Product Manager Phil Hutton	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-20	PM# 18	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Application for Reregistration

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
				<input checked="" type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.					
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container 1 oz. to 55 gallons	5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product			
6. Manner In Which Label Is Affixed To Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other (_____)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Kelly J. Parker		Title Regulatory Specialist		Telephone No. (Include Area Code) 214/868-8726	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					
2. Signature 		3. Title Regulatory Specialist		6. Date Application Received (Stamped)  122	
4. Typed Name Kelly J. Parker		5. Date 20 November 1991			

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460 Application for Pesticide:	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number <div style="font-size: 24pt; font-weight: bold;">156411</div>
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Section I

1. Company/Product Number 2724-446	2. EPA Product Manager Phil Hutton	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-20	PM# 18	
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input checked="" type="checkbox"/> Other - explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Application for Reregistration

Section III

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Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container 1 oz. to 55 gallons		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
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Section IV

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Name Kelly J. Parker	Title Regulatory Specialist	Telephone No. (Include Area Code) 214/888-8726
Certification		
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		
2. Signature 	3. Title Regulatory Specialist	
4. Typed Name Kelly J. Parker	5. Date 20 November 1991	
6. Date Application Received (Stamped) 		<div style="font-size: 24pt; font-weight: bold;">124</div>

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.....

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.....

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- 1-5. Self-explanatory.
6. EPA Use Only.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

20 November 1991

Mr. Willie Nelson
Product Management Team (18)
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Methoprene Reregistration, List A - Case 0030

Dear Mr. Nelson:

Enclosed in quadruplicate are data in support of reregistration of the subject products containing methoprene as the active ingredient. Please disregard suffixes in the code names for products. Those are strictly internal designations.

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 Product Specific ID# 2724-RD-7

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. <u>Storage Stability of Methoprene EC 65% (RF 174) EPA Reg. No. 2724-286, 2724-405, 55947-88, 55947-94.</u> Zoecon Study Number 1747. Unpublished. 22 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 337, "Determination of Methoprene in RF 174 by Gas Chromatography Analysis".</u> Zoecon Study Number 1539. Unpublished. 16 pages.
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flashpoint, and Viscosity of RF 174, EPA Registration Numbers 2724-286, 2724-405, 55947-88 and 55947-94.</u> Zoecon Study Number 1758. Unpublished. 23 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I-66EC: Acute Oral Toxicity Study in Male and Female Rats.</u> SRI Study No. LSC 2673-M027-91. Zoecon Study No. 1728. Unpublished. 41 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I-66EC: Primary Skin Irritation Study in Rabbits.</u> SRI Study No. LSC 2673-M029-91. Zoecon Study No. 1730. Unpublished. 40 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Eye Irritation Study in Rabbits. SRI Study No. LSC 2673-M030-91. Zoecon Study No. 1731. Unpublished. 42 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Acute Dermal Toxicity Study in Male and Female Rabbits. SRI Study No. LSC 2673-M028-91. Zoecon Study No. 1729. Unpublished. 39 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2673-M031-91. Zoecon Study No. 1732. Unpublished. 60 pages.

Please note that these data are also being submitted in support of Diacon, EPA Reg. No. 55947-94, Product ID# 55947-RD-94 for our sister company, Sandoz Crop Protection Corporation.

Apex 5E, EPA Reg. No. 55947-88
Product Specific ID# 55947-RD-88

Zoecon Studies 1539, 1728, 1729, 1730, 1731, 1732, 1747, 1758 are all applicable to this product. The formulations are identical, the registered use sites are different. A letter certifying Zoecon Corporation as an agent of Sandoz Crop Protection Corporation, is being provided under separate cover. As their agent, we are providing the above data in support of the Apex 5E registration currently being transferred to Zoecon.

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337
Product Specific ID# 2724-RD-22

MRID Number Study

Wilkins, C. Stability of (S)-Methoprene/Permethrin Solvent Based Fogger/Aerosol (RF274B) EPA Reg. No. 2724-337. Zoecon Study Number 1301. Unpublished. 14 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 63C, "Procedure for the Analysis of Permethrin and Methoprene in RF 274 and RF 280 (Solvent Based Foggers and Aerosols)". Zoecon Study Number 1539. Unpublished. 21 pages.

Clark, A. Physical and Chemical Properties Testing for Zoecon RF-274 Fogger. MRI No. 9914-F. Zoecon No. 1672. Unpublished. 13 pages.

McDaniel, J. Flash Point Determination of Zoecon RF-274 Fogger Concentrate. Zoecon Study Number 1680. Unpublished. 8 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R274B SAN 1139 I5.8AE Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2673-M037-91. Zoecon Study No. 1738. Unpublished. 55 pages.

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338
Product Specific ID# 2724-RD-23

MRID Number Study

Clark, A. Physical and Chemical Properties Testing for Zoecon RF-275 Pressurized Spray. MRI No. 9914-F. Zoecon No. 1674. Unpublished. 15 pages.

McDaniel, J. Flash Point Determination of Zoecon RF-275 Aerosol Concentrate. Zoecon Study Number 1680. Unpublished. 8 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 324 "Procedure for the Analysis of Methoprene, Synergist MGK-264, Pyrethrins and PBO in a Water-Based System (Including RF 275)". Zoecon Study Number 1539. Unpublished. 19 pages.

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339
Product Specific ID# 2724-RD-24

<u>MRID Number</u>	<u>Study</u>
_____	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-280 Aerosol</u> . MRI No. 9914-F. Zoecon No. 1671. Unpublished. 13 pages.
_____	McDaniel, J. <u>Flash Point Determination of Zoecon RF-280 Aerosol Concentrate</u> . Zoecon Study Number 1680. Unpublished. 8 pages.

Zoecon Study 1301, 1539, and 1738 listed above for Zoecon RF-274 Fogger are also applicable to this product. The only difference in the two products is a small difference in the amount of propellant.

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352
Product Specific ID# 2724-RD-25

<u>MRID Number</u>	<u>Study</u>
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 329, "Procedure for the Analysis for Methoprene in a Methoprene Emulsifiable Concentrate (RF 291)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-291, EPA Registration Number 2724-352</u> . Zoecon Study Number 1667. Unpublished. 23 pages.

Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356
Product Specific ID# 2724-RD-26

_____	Wilkins, C. <u>Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356</u> . Zoecon Study Number 1744. Unpublished. 19 pages.
_____	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.

Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360
Product Specific ID# 2724-RD-27

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. <u>Storage Stability of (S)-Methoprene/Permethrin Water Based Aerosol (RF297A) EPA Reg. No. 2724-360</u> . Zoecon Number 1308. Unpublished. 14 pages.
_____	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-297 Aerosol</u> . MRI No. 9914-F. Zoecon No. 1673. Unpublished. 15 pages.
_____	McDaniel, J. <u>Flash Point Determination of Zoecon RF-297 Aerosol Concentrate</u> . Zoecon Study Number 1680. Unpublished. 9 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 310 "Procedure for the Analysis of Water Based Aerosols Containing Permethrin and Methoprene (Including RF 297)"</u> . Zoecon Study Number 1539. Unpublished. 20 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Acute Oral Toxicity Study in Male and Female Rats. SRI Study No. LSC 2561-M008-91. Zoecon Study No. 1675. Unpublished. 34 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Acute Dermal Toxicity Study in Male and Female Rabbits. SRI Study No. LSC 2561-M009-91. Zoecon Study No. 1676. Unpublished. 43 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2561-M010-91. Zoecon Study No. 1677. Unpublished. 42 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Primary Eye Irritation Study in Rabbits. SRI Study No. LSC 2561-M011-91. Zoecon Study No. 1678. Unpublished. 44 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2561-M012-91. Zoecon Study No. 1679. Unpublished. 59 pages.

ALTOSID CP-10, EPA Reg. No. 2724-367
Product Specific ID# 2724-RD-28

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 74, EPA Registration Number 2724-367. Zoecon Study Number 1712. Unpublished. 17 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 77A, "Procedure for the Analysis of (R,S)-Methoprene in RF 74, (CP10)". Zoecon Study Number 1539. Unpublished. 16 pages.

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372
Product Specific ID# 2724-RD-30

Sheehan, T. Precision and Accuracy for Current Analytical Procedure (CAP) Number 335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages.

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372. Zoecon Study Number 1726. Unpublished. 17 pages.

Block IGR Cattle Supplement, EPA Reg. No. 2724-373
Product Specific ID# 2724-RD-31

MRID Number Study

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9119SAN800I0.02BB, Block Feed Supplement, EPA Registration Number 2724-373. Zoecon Study Number 1726. Unpublished. 17 pages.

Zoecon Study 1721 listed above for Granular IGR Cattle Supplement (EPA Reg. No. 2724-372) also provides precision and accuracy data for this cattle supplement product. The formulas are essentially identical.

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ALTOSID Briquets, EPA Reg. No. 2724-375
Product ID# 2724-RD-33

<u>MRID Number</u>	<u>Study</u>
_____	Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 433N, EPA Registration Number 2724-375.</u> Zoecon Study Number 1712. Unpublished. 17 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 325, "Procedure for the Analysis of Methoprene in RF 433N (30 Day Briquet and Briquet Premix)".</u> Zoecon Study Number 1539. Unpublished. 16 pages.

Kabat Tobacco Protector, EPA Reg. No. 2724-377
Product Specific ID# 2724-RD-34

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-385N, EPA Registration Number 2724-377.</u> Zoecon Study Number 1667. Unpublished. 23 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 321 "Determination of Methoprene in RF 385N and RF 386N (Kabat)".</u> Zoecon Study Number 1539. Unpublished. 17 pages.

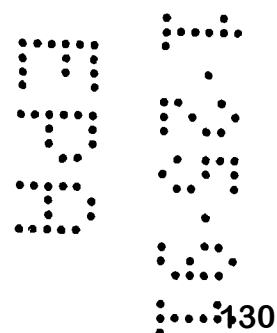
Kabat Protector Concentrate, EPA Reg. No. 2724-384
Product Specific ID# 2724-RD-36

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-386N, EPA Registration Number 2724-384.</u> Zoecon Study Number 1667. Unpublished. 21 pages.

Zoecon Study 1539 listed above for Kabat Tobacco Protector provides precision and accuracy data on the analytical method for both products. These two products are identical except in the level of methoprene; the Kabat Tobacco Protector is 5% methoprene and the Concentrate product is 80% methoprene.

Altosid Liquid Larvicide, EPA Reg. No. 2724-392
Product Specific ID# 2724-41

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-438N, EPA Registration Number 2724-392.</u> Zoecon Study Number 1667. Unpublished. 24 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 328, "Procedure for the Analysis of (S)-Methoprene in RF 437N, RF438N and RF 329 (Altosid Liquid Larvicide SR-20, SR-5 and Pharorid)".</u> Zoecon Study Number 1539. Unpublished. 28 pages.



Altosid Liquid Larvicide Concentrate, EPA Reg. No. 2724-393
Product Specific ID# 2724-42

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-437N, EPA Registration Numbers 2724-393 and 2724-446.</u> Zoecon Study Number 1667. Unpublished. 24 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Acute Oral Toxicity Study in Male and Female Rats . SRI Study No. LSC 2673-M032-91.</u> Zoecon Study No. 1733. Unpublished. 36 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Acute Dermal Toxicity Study in Male and Female Rabbits . SRI Study No. LSC 2673-M033-91.</u> Zoecon Study No. 1734. Unpublished. 41 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Primary Skin Irritation Study in Rabbits . SRI Study No. LSC 2673-M034-91.</u> Zoecon Study No. 1735. Unpublished. 39 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Eye Irritation Study in Rabbits . SRI Study No. LSC 2673-M035-91.</u> Zoecon Study No. 1736. Unpublished. 44 pages.
_____	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M036-91.</u> Zoecon Study No. 1737. Unpublished. 54 pages.

Zoecon Study Number 1539 listed above for Altosid Liquid Larvicide provides precision and accuracy data on the analytical method for both products.

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401
Product Specific ID# 2724-44

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. <u>Stability of (S)-Methoprene/Permethrin Pump Spray EPA Reg. No. 2724-401.</u> Zoecon Study Number 1283. Unpublished. XX pages.
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-299, EPA Registration Number 2724-401.</u> Zoecon Study Number 1667. Unpublished. 23 pages.
_____	Lephart, J. <u>Method Validation for the Analysis of (R,S)-Methoprene or (S)-Methoprene and Permethrin in a RTU Water-based Carpet Spray.</u> Zoecon Project Code R299SAN11291.26AL. 1303 Report-VMOA. Unpublished. 62 pages.

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404
Product Specific ID# 2724-RD-46

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. <u>Stability of Ovitrol Flea & Tick Pump Spray (RF322) EPA Reg. No. 2724-401 (sic).</u> Zoecon Study Number 1283. Unpublished. XX pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J. <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 242B, "Procedure for the Analysis of S-Methoprene, PBO, Pyrethrins and MGK-264 in Alcohol-Based Pump Spray (Including RF 322)".</u> Zoecon Study Number 1539. Unpublished. 20 pages.

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-322, EPA Registration Number 2724-404. Zoecon Study Number 1667. Unpublished. 23 pages.

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420
Product Specific ID# 2724-RD-48

MRID Number Study

McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-329, EPA Registration Number 2724-420. Zoecon Study Number 1667. Unpublished. 24 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R329 SAN 810 I4.8CB: Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2673-M038-91. Zoecon Study No. 1739. Unpublished. 56 pages.

Zoecon Study 1539 listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to this product as they are essentially identical formulations.

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421
Product Specific ID# 2724-RD-49

MRID Number Study

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 292A, EPA Registration Number 2724-421. Zoecon Study Number 1712. Unpublished. 17 pages.

Nguyen, K. Method for the Assay of S-Methoprene in Briquets. Zoecon Study TR-1275. Unpublished. 70 pages.

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427
Product Specific ID# 2724-RD-50

MRID Number Study

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 330, "Procedure for the Analysis for Methoprene in RF 342 (Dianex)". Zoecon Study Number 1539. Unpublished. 16 pages.

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-342, EPA Registration Number 2724-427. Zoecon Study Number 1667. Unpublished. 23 pages.

Methoprene Technical, EPA Reg. No. 2724-441
Product Specific ID# 2724-RD-56

MRID Number Study

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (R,S)-Methoprene, EPA Registration Number 2724-441. Zoecon Study Number 1667. Unpublished. 21 pages.

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Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 284, "Procedure for The Analysis of Technical Methoprene (EPA Registration Numbers 2724-441 and 2724-442)". Zoecon Study Number 1539. Unpublished. 17 pages.

(S)-Methoprene Technical, EPA Reg. No. 2724-442
Product Specific ID# 2724-RD-51

<u>MRID Number</u>	<u>Study</u>
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_____	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (S)-Methoprene, EPA Registration Number 2724-442.</u> Zoecon Study Number 1669. Unpublished. 21 pages.
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Zoecon Study 1539 listed above for Methoprene Technical also provides precision and accuracy data for the current analytical procedure for S-Methoprene Technical.

Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446
Product Specific ID# 2724-RD-439

Zoecon Studies 1667, 1733, 1734, 1735, 1736, 1737 listed above for ALTOSID Liquid Larvicide Concentrate are also applicable to this product, since their formulations are identical. The only difference in the two products is in their labels; ALTOSID Liquid Larvicide is a manufacturing-use product and RF-437 carries an end-use label.

Zoecon Study 1539 listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to this product as they are essentially identical formulations.

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448
Product Specific ID# 2724-RD-52

<u>MRID Number</u>	<u>Study</u>
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_____	Nguyen, K. <u>Method Validation for the Analysis of (S)-Methoprene in Altosid Pellets and Premix.</u> Zoecon Project Code R330SAN810I4XX. 1413 Report-VMOA. Unpublished. 34 pages.
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_____	Schweitzer, M. <u>Product Chemistry of Altosid Pellets.</u> Battelle Study Number SC900157. Zoecon Study Number 1565. Unpublished. 24 pages.
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Best regards,

Kelly J. Parker

Kelly J. Parker
Regulatory Specialist
800/527-0512

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ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

ACTIVE INGREDIENT:

(S)-Methoprene (Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate).....

20.0%

INERT INGREDIENTS:.....

80.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. •SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

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12200 Denton Drive, Dallas, Texas 75234

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NET CONTENTS:

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)- 11-methoxy-3,7,11-trimethyl-2,4- dodecadienoate].....	20.0%
INERT INGREDIENTS:.....	80.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

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ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)- 11-methoxy-3,7,11-trimethyl-2,4- dodecadienoate].....	20.0%
INERT INGREDIENTS:.....	80.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see **Guide to Product Application**.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to **Guide to Product Application**.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

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ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate].....

20.0%

INERT INGREDIENTS:.....

80.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see *Guide to Product Application*.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to *Guide to Product Application*.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
1091-C:0193E;RED

EPA Est
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Made in U.S.A.

NET CONTENTS:

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

1091-C-0192E;RED

10-92-11

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

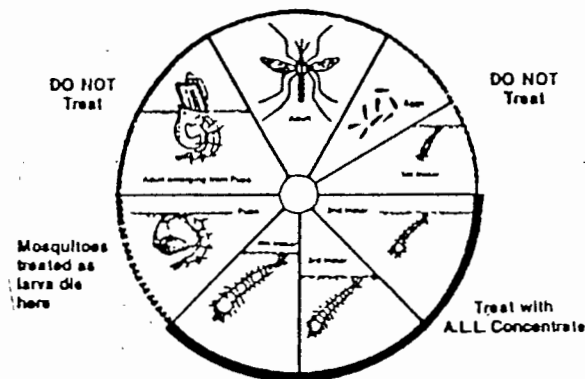
DO the following:

1. **DO** treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. **DO** wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. **DO** observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. **DO** monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. **DO NOT** take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. **DO NOT** take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. **DO NOT** think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. **DO NOT** spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-437 (7.5 fluid oz.)
0.5 lbs. Hissil 233 (silicon dioxide)
Small Funnel
Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of Hissil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hissil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hissil if it flows significantly slower and reduce the amount of Hissil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 pounds of the final mixture per acre using standard granular dispersal equipment.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

1091-0-0102E:REB

1091-0-0102E:REB

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

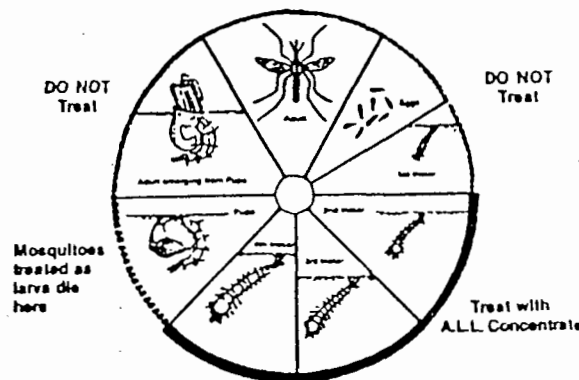
DO the following:

1. **DO treat second, third and/or fourth instar larvae**, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. **DO wait** until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. **DO observe pupae for several days**, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. **DO monitor** emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. **DO NOT take dip counts of larvae** after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. **DO NOT take dip counts of pupae** after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. **DO NOT think** Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. **DO NOT spray again**, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

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PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

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Cement Mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
4. Stop the mixer and add 0.5 lbs. of Hsilil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hsilil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hsilil if it flows significantly slower and reduce the amount of Hsilil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

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After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

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1091 C:0192E RED

10 92 11

CHECK LIST

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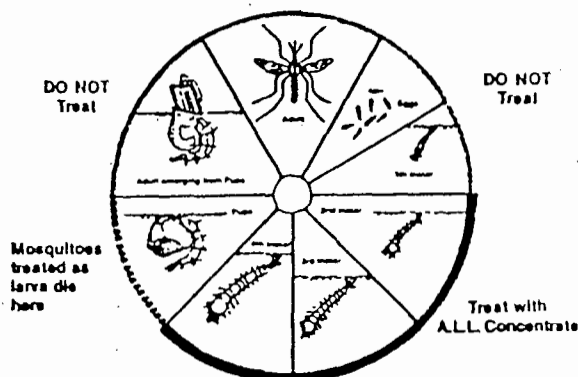
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LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



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1091-C-0192E;RED

10-92-11

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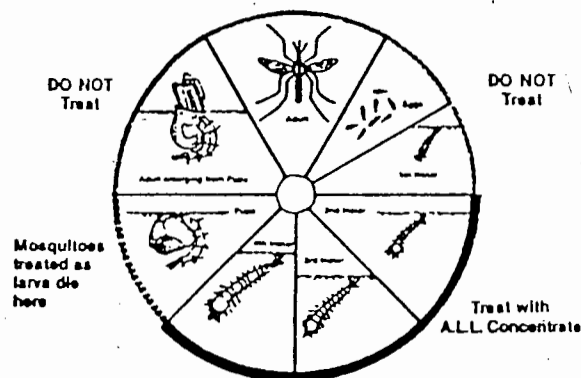
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LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

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APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 pounds of the final mixture per acre using standard granular dispersal equipment.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

20 November 1991

Mr. Willie Nelson
 Product Management Team (18)
 U.S. Environmental Protection Agency
 Document Processing Desk (RED/RD-0030)
 Office of Pesticide Programs (H7504C)
 Room 266A, Crystal Mall, Bldg. 2
 1921 Jefferson Davis Hwy.
 Arlington, VA 22202

RE: Methoprene Reregistration, List A - Case 0030

Dear Mr. Nelson:

Enclosed in quadruplicate are data in support of reregistration of the subject products containing methoprene as the active ingredient. Please disregard suffixes in the code names for products. Those are strictly internal designations.

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286
Product Specific ID# 2724-RD-7

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. Storage Stability of Methoprene EC 65% (RF 174) EPA Reg. No. 2724-286, 2724-405, 55947-88, 55947-94. Zoecon Study Number 1747. Unpublished. 22 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 337, "Determination of Methoprene in RF 174 by Gas Chromatography Analysis". Zoecon Study Number 1539. Unpublished. 16 pages.
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flashpoint, and Viscosity of RF 174, EPA Registration Numbers 2724-286, 2724-405, 55947-88 and 55947-94. Zoecon Study Number 1758. Unpublished. 23 pages.
_____	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Acute Oral Toxicity Study in Male and Female Rats. SRI Study No. LSC 2673-M027-91. Zoecon Study No. 1728. Unpublished. 41 pages.
_____	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2673-M029-91. Zoecon Study No. 1730. Unpublished. 40 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Eye Irritation Study in Rabbits. SRI Study No. LSC 2673-M030-91. Zoecon Study No. 1731. Unpublished. 42 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Acute Dermal Toxicity Study in Male and Female Rabbits . SRI Study No. LSC 2673-M028-91. Zoecon Study No. 1729. Unpublished. 39 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M031-91. Zoecon Study No. 1732. Unpublished. 60 pages.

Please note that these data are also being submitted in support of Diacon, EPA Reg. No. 55947-94, Product ID# 55947-RD-94 for our sister company, Sandoz Crop Protection Corporation.

**Apex 5E, EPA Reg. No. 55947-88
Product Specific ID# 55947-RD-88**

Zoecon Studies 1539, 1728, 1729, 1730, 1731, 1732, 1747, 1758 are all applicable to this product. The formulations are identical, the registered use sites are different. A letter certifying Zoecon Corporation as an agent of Sandoz Crop Protection Corporation, is being provided under separate cover. As their agent, we are providing the above data in support of the Apex 5E registration currently being transferred to Zoecon.

**Zoecon RF-274 Fogger, EPA Reg. No. 2724-337
Product Specific ID# 2724-RD-22**

<u>MRID Number</u>	<u>Study</u>
	Wilkins, C. <u>Stability of (S)-Methoprene/Permethrin Solvent Based Fogger/Aerosol (RF274B) EPA Reg. No. 2724-337.</u> Zoecon Study Number 1301. Unpublished. 14 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 63C, "Procedure for the Analysis of Permethrin and Methoprene in RF 274 and RF 280 (Solvent Based Foggers and Aerosols)".</u> Zoecon Study Number 1539. Unpublished. 21 pages.
	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-274 Fogger.</u> MRI No. 9914-F. Zoecon No. 1672. Unpublished. 13 pages.
	McDaniel, J. <u>Flash Point Determination of Zoecon RF-274 Fogger Concentrate.</u> Zoecon Study Number 1680. Unpublished. 8 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R274B SAN 1139 I5.8AE Skin Sensitization Study in Guinea Pigs .</u> SRI Study No. LSC 2673-M037-91. Zoecon Study No. 1738. Unpublished. 55 pages.

**Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338
Product Specific ID# 2724-RD-23**

<u>MRID Number</u>	<u>Study</u>
	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-275 Pressurized Spray.</u> MRI No. 9914-F. Zoecon No. 1674. Unpublished. 15 pages.
	McDaniel, J. <u>Flash Point Determination of Zoecon RF-275 Aerosol Concentrate.</u> Zoecon Study Number 1680. Unpublished. 8 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 324 "Procedure for the Analysis of Methoprene, Synergist MGK-264, Pyrethrins and PBO in a Water-Based System (Including RF 275)".</u> Zoecon Study Number 1539. Unpublished. 19 pages.

Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339
Product Specific ID# 2724-RD-24

<u>MRID Number</u>	<u>Study</u>
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_____	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-280 Aerosol</u> . MRI No. 9914-F. Zoecon No. 1671. Unpublished. 13 pages.
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_____	McDaniel, J. <u>Flash Point Determination of Zoecon RF-280 Aerosol Concentrate</u> . Zoecon Study Number 1680. Unpublished. 8 pages.
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Zoecon Study 1301, 1539, and 1738 listed above for Zoecon RF-274 Fogger are also applicable to this product. The only difference in the two products is a small difference in the amount of propellant.

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352
Product Specific ID# 2724-RD-25

<u>MRID Number</u>	<u>Study</u>
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_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 329, "Procedure for the Analysis for Methoprene in a Methoprene Emulsifiable Concentrate (RF 291)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
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_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-291, EPA Registration Number 2724-352</u> . Zoecon Study Number 1667. Unpublished. 23 pages.
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Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356
Product Specific ID# 2724-RD-26

_____	Wilkins, C. <u>Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356</u> . Zoecon Study Number 1744. Unpublished. 19 pages.
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_____	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
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_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
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Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360
Product Specific ID# 2724-RD-27

<u>MRID Number</u>	<u>Study</u>
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_____	Wilkins, C. <u>Storage Stability of (S)-Methoprene/Permethrin Water Based Aerosol (RF297A) EPA Reg. No. 2724-360</u> . Zoecon Number 1308. Unpublished. 14 pages.
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_____	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-297 Aerosol</u> . MRI No. 9914-F. Zoecon No. 1673. Unpublished. 15 pages.
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_____	McDaniel, J. <u>Flash Point Determination of Zoecon RF-297 Aerosol Concentrate</u> . Zoecon Study Number 1680. Unpublished. 9 pages.
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_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 310 "Procedure for the Analysis of Water Based Aerosols Containing Permethrin and Methoprene (Including RF 297)"</u> . Zoecon Study Number 1539. Unpublished. 20 pages.
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Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Acute Oral Toxicity Study in Male and Female Rats. SRI Study No. LSC 2561-M008-91. Zoecon Study No. 1675. Unpublished. 34 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Acute Dermal Toxicity Study in Male and Female Rabbits. SRI Study No. LSC 2561-M009-91. Zoecon Study No. 1676. Unpublished. 43 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2561-M010-91. Zoecon Study No. 1677. Unpublished. 42 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Primary Eye Irritation Study in Rabbits. SRI Study No. LSC 2561-M011-91. Zoecon Study No. 1678. Unpublished. 44 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2561-M012-91. Zoecon Study No. 1679. Unpublished. 59 pages.

ALTOSID CP-10, EPA Reg. No. 2724-367
Product Specific ID# 2724-RD-28

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 74, EPA Registration Number 2724-367. Zoecon Study Number 1712. Unpublished. 17 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 77A, "Procedure for the Analysis of (R,S)-Methoprene in RF 74, (CP10)". Zoecon Study Number 1539. Unpublished. 16 pages.

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372
Product Specific ID# 2724-RD-30

Sheehan, T. Precision and Accuracy for Current Analytical Procedure (CAP) Number 335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages.

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372. Zoecon Study Number 1726. Unpublished. 17 pages.

Block IGR Cattle Supplement, EPA Reg. No. 2724-373
Product Specific ID# 2724-RD-31

MRID Number Study

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9119SAN800I0.02BB, Block Feed Supplement, EPA Registration Number 2724-373. Zoecon Study Number 1726. Unpublished. 17 pages.

Zoecon Study 1721 listed above for Granular IGR Cattle Supplement (EPA Reg. No. 2724-372) also provides precision and accuracy data for this cattle supplement product. The formulas are essentially identical.

ALTOSID Briquets, EPA Reg. No. 2724-375
Product ID# 2724-RD-33

<u>MRID Number</u>	<u>Study</u>
_____	Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 433N, EPA Registration Number 2724-375.</u> Zoecon Study Number 1712. Unpublished. 17 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 325, "Procedure for the Analysis of Methoprene in RF 433N (30 Day Briquet and Briquet Premix)".</u> Zoecon Study Number 1539. Unpublished. 16 pages.

Kabat Tobacco Protector, EPA Reg. No. 2724-377
Product Specific ID# 2724-RD-34

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-385N, EPA Registration Number 2724-377.</u> Zoecon Study Number 1667. Unpublished. 23 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 321 "Determination of Methoprene in RF 385N and RF 386N (Kabat)".</u> Zoecon Study Number 1539. Unpublished. 17 pages.

Kabat Protector Concentrate, EPA Reg. No. 2724-384
Product Specific ID# 2724-RD-36

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-386N, EPA Registration Number 2724-384.</u> Zoecon Study Number 1667. Unpublished. 21 pages.

Zoecon Study 1539 listed above for Kabat Tobacco Protector provides precision and accuracy data on the analytical method for both products. These two products are identical except in the level of methoprene; the Kabat Tobacco Protector is 5% methoprene and the Concentrate product is 80% methoprene.

Altosid Liquid Larvicide, EPA Reg. No. 2724-392
Product Specific ID# 2724-41

<u>MRID Number</u>	<u>Study</u>
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-438N, EPA Registration Number 2724-392.</u> Zoecon Study Number 1667. Unpublished. 24 pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 328, "Procedure for the Analysis of (S)-Methoprene in RF 437N, RF438N and RF 329 (Altosid Liquid Larvicide SR-20, SR-5 and Pharoid)".</u> Zoecon Study Number 1539. Unpublished. 23 pages.

Altosid Liquid Larvicide Concentrate, EPA Reg. No. 2724-393
Product Specific ID# 2724-42

<u>MRID Number</u>	<u>Study</u>
<u>42108401</u>	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-437N, EPA Registration Numbers 2724-393 and 2724-446.</u> Zoecon Study Number 1667. Unpublished. 24 pages.
<u>42108402</u>	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Acute Oral Toxicity Study in Male and Female Rats . SRI Study No. LSC 2673-M032-91.</u> Zoecon Study No. 1733. Unpublished. 36 pages.
<u>42108403</u>	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Acute Dermal Toxicity Study in Male and Female Rabbits . SRI Study No. LSC 2673-M033-91.</u> Zoecon Study No. 1734. Unpublished. 41 pages.
<u>42108404</u>	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Primary Skin Irritation Study in Rabbits . SRI Study No. LSC 2673-M034-91.</u> Zoecon Study No. 1735. Unpublished. 39 pages.
<u>42108405</u>	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Eye Irritation Study in Rabbits . SRI Study No. LSC 2673-M035-91.</u> Zoecon Study No. 1736. Unpublished. 44 pages.
<u>42108406</u>	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M036-91.</u> Zoecon Study No. 1737. Unpublished. 54 pages.

Zoecon Study Number 1539 listed above for Altosid Liquid Larvicide provides precision and accuracy data on the analytical method for both products.

Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401
Product Specific ID# 2724-44

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. <u>Stability of (S)-Methoprene/Permethrin Pump Spray EPA Reg. No. 2724-401.</u> Zoecon Study Number 1283. Unpublished. XX pages.
_____	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-299, EPA Registration Number 2724-401.</u> Zoecon Study Number 1667. Unpublished. 23 pages.
_____	Lephart, J. <u>Method Validation for the Analysis of (R,S)-Methoprene or (S)-Methoprene and Permethrin in a RTU Water-based Carpet Spray.</u> Zoecon Project Code R299SAN1129I.26AL. 1303 Report-VMOA. Unpublished. 62 pages.

Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404
Product Specific ID# 2724-RD-46

<u>MRID Number</u>	<u>Study</u>
_____	Wilkins, C. <u>Stability of Ovitrol Flea & Tick Pump Spray (RF322) EPA Reg. No. 2724-401 (sic).</u> Zoecon Study Number 1283. Unpublished. XX pages.
_____	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 242B, Procedure for the Analysis of S-Methoprene, PBO, Pyrethrins and MGK-264 in Alcohol-Based Pump Spray (Including RF 322)".</u> Zoecon Study Number 1539. Unpublished. 20 pages.

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-322, EPA Registration Number 2724-404. Zoecon Study Number 1667. Unpublished. 23 pages.

Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420
Product Specific ID# 2724-RD-48

MRID Number Study

McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-329, EPA Registration Number 2724-420. Zoecon Study Number 1667. Unpublished. 24 pages.

Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R329 SAN 810 I4.8CB: Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2673-M038-91. Zoecon Study No. 1739. Unpublished. 56 pages.

Zoecon Study 1539 listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to this product as they are essentially identical formulations.

Zoecon RF-292 Briquet, EPA Reg. No. 2724-421
Product Specific ID# 2724-RD-49

MRID Number Study

Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 292A, EPA Registration Number 2724-421. Zoecon Study Number 1712. Unpublished. 17 pages.

Nguyen, K. Method for the Assay of S-Methoprene in Briquets. Zoecon Study TR-1275. Unpublished. 70 pages.

Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427
Product Specific ID# 2724-RD-50

MRID Number Study

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 330, "Procedure for the Analysis for Methoprene in RF 342 (Dianex)". Zoecon Study Number 1539. Unpublished. 16 pages.

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-342, EPA Registration Number 2724-427. Zoecon Study Number 1667. Unpublished. 23 pages.

Methoprene Technical, EPA Reg. No. 2724-441
Product Specific ID# 2724-RD-56

MRID Number Study

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (R,S)-Methoprene, EPA Registration Number 2724-441. Zoecon Study Number 1669. Unpublished. 21 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 284, "Procedure for The Analysis of Technical Methoprene (EPA Registration Numbers 2724-441 and 2724-442)". Zoecon Study Number 1539. Unpublished. 17 pages.

(S)-Methoprene Technical, EPA Reg. No. 2724-442
Product Specific ID# 2724-RD-51

MRID Number Study

McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (S)-Methoprene, EPA Registration Number 2724-442. Zoecon Study Number 1669. Unpublished. 21 pages.

Zoecon Study 1539 listed above for Methoprene Technical also provides precision and accuracy data for the current analytical procedure for S-Methoprene Technical.

Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446
Product Specific ID# 2724-RD-439

Zoecon Studies 1667, 1733, 1734, 1735, 1736, 1737 listed above for ALTOSID Liquid Larvicide Concentrate are also applicable to this product, since their formulations are identical. The only difference in the two products is in their labels; ALTOSID Liquid Larvicide is a manufacturing-use product and RF-437 carries an end-use label.

Zoecon Study 1539 listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to this product as they are essentially identical formulations.

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448
Product Specific ID# 2724-RD-52

MRID Number Study

Nguyen, K. Method Validation for the Analysis of (S)-Methoprene in Altosid Pellets and Premix. Zoecon Project Code R330SAN810I4XX. 1413 Report-VMOA. Unpublished. 34 pages.

Schweitzer, M. Product Chemistry of Altosid Pellets. Battelle Study Number SC900157. Zoecon Study Number 1565. Unpublished. 24 pages.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

11/20

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

25 November 1991

Mr. Phil Hutton
Product Manager 18
Insecticide-Rodenticide Branch
Office of Pesticide Programs (H7504C)
Document Processing Desk (6(a)(2))
Room 266A, Crystal Mall 2
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Adverse Effects Discovered In Toxicology Data

Dear Mr. Hutton:

The following studies were submitted in accordance with the R.E.D. for Methoprene. These studies had surprising results; hence, considered by EPA to be adverse effects. Please note that we have not seen confirmation of these results from product use in the marketplace.

Schindler, J.E. and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC:
Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2673-M029-91.
Zoecon Study No. 1730. Unpublished. 40 Pages. (See note 1.)

Results: The 72-hour mean irritation score was 1.0 placing this product in Tox Category IV; however, 2 rabbits showed irritation through 21 days after patch removal.

Schindler, J.E. and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC:
Skin Sensitization Study in Guinea Pigs. SRI Study No. LSC 2673-M031-91.
Zoecon Study No. 1732. Unpublished. 60 Pages. (See note 1.)

Results: This study showed a positive response.

Schindler, J.E. and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014 I 7AE:
Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2561-M010-91.
Zoecon Study No. 1677. Unpublished. 42 Pages. (See note 2.)

Results: The 72-hour mean irritation score was 3.8 placing this product in Tox Category III; however, 2 rabbits showed irritation to 21 days after patch removal.

Part of transmittal

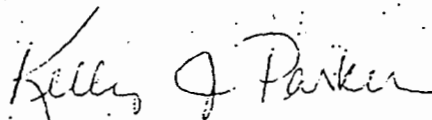
Schindler, J.E. and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I 20CS:
Skin Sensitization Study in Guinea Pigs. SRI International. SRI Study No.
LSC 2673-M036-91. Zoecon Study No. 1737. Unpublished. 54 Pages. (See note
3.)

Results: This study showed a positive response.

Notes:

1. Zoecon Sample No. R174 SAN 800 I 66EC is the test material code for EPA Registration Numbers 2724-286 and 55947-88 (Under separate cover, Sandoz Crop Protection Corporation has certified Zoecon Corporation as their agent for this product pending transfer completion).
2. Zoecon Sample No. R297 ZOE 014 I .47 AE is the test material code for EPA Registration Number 2724-360.
3. Zoecon Sample No. R437N SAN 810 I 20CS is the test material code for EPA Registration Numbers 2724-393, and 2724-446.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512

XC with Data:

Mr. Gary Sprock
Registration Specialist
Department of Pesticide Regulation
California Environmental Protection Agency
1220 N Street
Sacramento, CA 95814

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's
Prevents emergence of adult fleas up to 8 weeks outdoors
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)- 11-methoxy-3,7,11-trimethyl-2,4- dodecadienoate].....	20.0%
INERT INGREDIENTS:.....	80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater, mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.]

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0291-C:0193E

EPA Est.
© 1989 Zoecon
Made in U.S.A.

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's
Prevents emergence of adult fleas up to 8 weeks outdoors
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-

dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

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HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

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Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

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STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

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EFFICACY REVIEW

DATE: IN 6-27-91 OUT 11-13-91

FILE OR REG. NO. 2724-446

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED March 12, 1991

DATE OF SUBMISSION March 8, 1991

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCT(S): (I, D, H, F, N, R, S) _____

DATA ACCESSION NO(S). 418398-01; D165524; S398078; Case #028442; Action Code 305

PRODUCT MGR. NO. 18-Hutton/Mende/sohn

PRODUCT NAME(S) Zoecon RF-379 Mosquito Growth Regulator SR-20

COMPANY NAME Zoecon Corporation, a Sandoz Company

SUBMISSION PURPOSE Provide performance data in support of claims
for control of fleas outdoors by application
of the subject product to areas frequented by pets.

CHEMICAL & FORMULATION (S)-Methoprene [Isopropyl (2E, 4E 7S)-11-
methoxy-3,7,11-trimethyl-2,4-dodecadienoate] 20.0%

(1.72 lbs. active ingredient per gallon)

CONCLUSIONS & RECOMMENDATIONS The data presented in EPA Accession (MRID) Number 418398-01, having been obtained from simulated field testing conducted according to a company-devised protocol which meets the requirements of § 95-11(b)(1), and (3) to (7) on p. 268 and the standard of § 95-11, under (c)(2)(i) and (ii)(A)(b) on p. 270 of the Product Performance Guidelines, are adequate to support a claim for control of fleas outdoors when the subject product is applied to areas frequented by pets (such as in and around dog houses and runs, shrubs, outside decks and porches) according to label directions. These data are also adequate to demonstrate residual effectiveness against flea larvae in or on soil through 8 weeks following a single application at label rates. Therefore, the alternate label text relative to outdoor flea control is acceptable, including preparation of spray mixture, application directions and rate of application.

RL Venn L. McFarland, IRB

DP-BARCODE: D165524

CASE: 028442
SUBMISSION: S398078

DATA PACKAGE RECORD
BEAN SHEET

DATE: 06/24/91
Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 305 TECH-LBL REV AMND DATA RE
CHEMICALS: 105402 Isopropyl-11-methoxy (2E,4E,7S)-3,7,11-trimethyl-2 20.0000%
ID#: 002724-00446 ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20
COMPANY: 002724 ZOECON CORPORATION
PRODUCT MANAGER: 18 PHILLIP HUTTON 703-557-2690 ROOM: CM2 207
PM TEAM REVIEWER: MICHAEL MENDELSON 703-557-4409 ROOM: CM2 203
RECEIVED DATE: 03/12/91 DUE OUT DATE: 06/10/91

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 165524 EXPEDITE: N DATE SENT: 06/24/91 DATE RET.: / /
CHEMICAL: 105402 Isopropyl-11-methoxy (2E,4E,7S)-3,7,11-trimethyl-2,4-dodeca
P TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 08/08/91 CSF: Y LABEL: Y

ASSIGNED TO	DATE	IN	DATE	OUT
DIV : RD	/	/	/	/
BRAN: IRB	/	/	/	/
SECT: TS	/	/	/	/
REVR :	/	/	/	/
CONTR:	/	/	/	/

* * * DATA REVIEW INSTRUCTIONS * * *

Attention Vern McFarland:

Please review the outdoor flea control data and
comment proposed label. Thanks.

Mike

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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United States Environmental Protection Agency
Office of Pesticide Programs (TS-767)
Washington, DC 20460

Application for Pesticide:

☐ Registration
☒ Amendment

OPP Identifier Number

143315-7

Section I

1. Company/Product Number
2724-446

2. Date
8 March 1991

3. Product Manager
Hutton/17

4. Proposed Classification
☒ General ☐ Restricted

5. Name and Address of Applicant (Include ZIP Code)

Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, TX 75234

☐ Check if this is a new address

6. Product Name

Zoecon RF-379 Mosquito Growth Regulator SR-20

Section II - Amendment Information

1. Subject

☐ Resubmission in response to Agency letter ☐ Final printed label in response to Agency letter ☒ Other (explain below)

Date of Letter

Amendment to Add Outdoor Flea Use

Section III

1. Material This Product Will Be Packaged In

Child-Resistant Packaging ☐ Yes ☒ No

Unit Packaging ☐ Yes ☒ No

If "Yes,"

Unit package wgt No. per container

Water-Soluble Packaging ☐ Yes ☒ No

If "Yes,"

Package weight No. per container

2. Type of Container

☒ Metal

☒ Plastic

☐ Glass

☐ Paper

☐ Other (Specify)

3. Location of Net Contents Information ☒ Label ☐ Container

4. Size(s) of Retail Container

1 oz. to 55 gallon

5. Location of Label Directions

☒ On Label

☒ On material accompanying product

6. Manner in Which Label Is Affixed To Product

☐ Lithograph ☐ Other (Specify)

☒ Paper glued

☐ Stenciled

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application).

Name

Kelly J. Parker

Title

Regulatory Specialist

Telephone No. (Include Area Code)

214/888-8726

6. Date Application Received (Stamp)

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature

Kelly J. Parker

3. Title

Regulatory Specialist

4. Typed Name

Kelly J. Parker

5. Date Signed

3/8/91

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

1. Offer to Pay Statement (EPA Form 8570-27, -28, -29). (If not exempted by 40 CFR 162.9-1(b).)
2. Confidential Statement of Formula (EPA Form 8570-4).
3. Five copies of draft labeling.
4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

1. **Company/Product Number** - Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
2. **Date** - Fill in the appropriate date.
3. **Product Manager** - If known, fill in the name and number of the Product Manager.
4. **Proposed Classification** - Specify the proposed classification for this product.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

.....

An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

1. **Subject of Amendment** - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
6. EPA Use Only.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

8 March 1991

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator, EPA Reg. No. 2724-446
Amendment to Add Outdoor Flea Use

Dear Mr. Hutton:

We have the opportunity to market an outdoor flea control product containing (S)-methoprene. Zoecon RF-379 is a microencapsulated product, thus allowing slow-release and protection of (S)-methoprene.

Efficacy data are provided supporting the outdoor use of this product at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Zoecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

The current label addresses only mosquito use. The flea control use would be alternate language to the mosquito use language. Therefore, the flea-use label as marketed would consist of the following information:

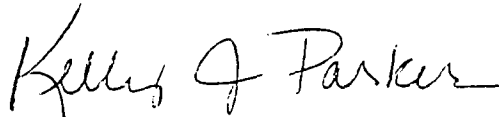
- | | |
|--|------------------------------------|
| 1. Name (without mosquito growth regulator) - e.g. "YardCor" | 5. Directions for Use Heading |
| 2. Flea Claims - Three claims related to fleas | 6. Application Rate for fleas. |
| 3. Ingredient statement & Net Wt. | 7. Mixing and Handling Instruction |
| 4. Precautionary Statements | 8. Directions for flea use |
| | 9. Storage and Disposal |
| | 10. Administrative information |

I've highlighted the new language related to the flea use and blocked the flea-use areas noted above on a label for reference.

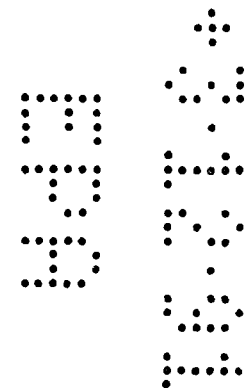
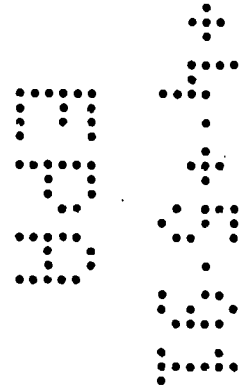
To streamline the label, we changed the heading, "Instructions for Use" to "Mixing and Handling Instructions", a more appropriate heading. We have moved these instructions after the "Application Rate" section. We have deleted the old mixing and handling instructions section since it is a reiteration of the instructions already provided.

Chemigation instructions have been added to the Guide to Product Application in reference to the mosquito use. This is the standard referral statement from PR Notice 87-1. The flea-use product will be used only on residential yards; therefore, the chemigation statement will not be included in the flea-use label.

Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512



ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's
Prevents emergence of adult fleas up to 8 weeks outdoors
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-

dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

1. **SHAKE WELL BEFORE USING.** Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
2. Do not mix with oil; use clean equipment.
3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0291-C:0193E

EPA Est
© 1989 Zoecon
Made in U.S.A.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

8 March 1991

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
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Arlington, VA 22202

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Dear Mr. Hutton:

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Efficacy data are provided supporting the outdoor use of this product at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Zoecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

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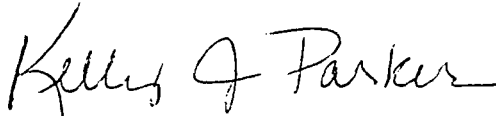
- | | |
|--|-------------------------------------|
| 1. Name (without mosquito growth regulator) - e.g. "YardCor" | 5. Directions for Use Heading |
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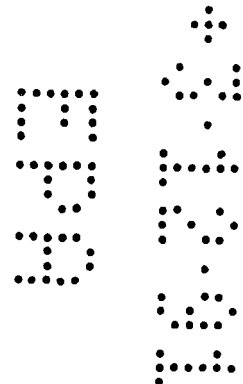
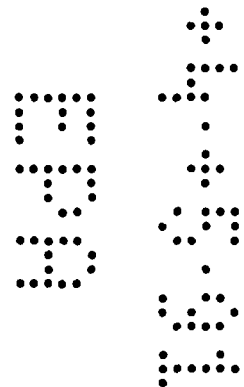
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Best regards,



Kelly J. Parker
Regulatory Specialist
800/527-0512



ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's
Prevents emergence of adult fleas up to 8 weeks outdoors
Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-

dodecadienoate]..... 20.0%
INERT INGREDIENTS..... 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

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2. Do not mix with oil; use clean equipment.
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4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches, and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

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When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

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[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

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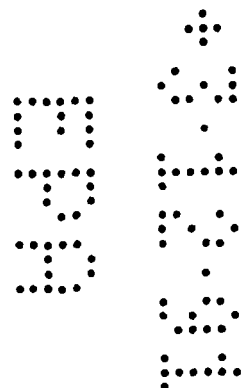
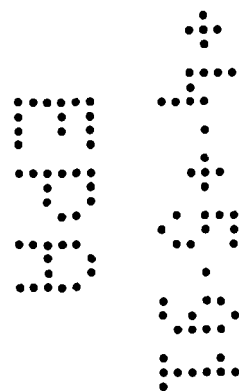
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Kelly J. Parker
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ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

[] INDICATES OPTIONAL WORDING*

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dodecadienoate]

20.0%

INERT INGREDIENTS:

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

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APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. **Rice:** Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

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CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [such as Yardex] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0291-C:0193E

EPA Est
© 1989 Zoecon
Made in U.S.A.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

418398-00

8 March 1991

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator, EPA Reg. No. 2724-446
Amendment to Add Outdoor Flea Use

Dear Mr. Hutton:

We have the opportunity to market an outdoor flea control product containing (S)-methoprene. Zoecon RF-379 is a microencapsulated product, thus allowing slow-release and protection of (S)-methoprene.

Efficacy data are provided supporting the outdoor use of this product at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Zoecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

The current label addresses only mosquito use. The flea control use would be alternate language to the mosquito use language. Therefore, the flea-use label as marketed would consist of the following information:

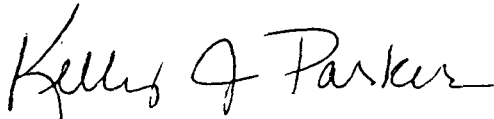
- | | |
|--|------------------------------------|
| 1. Name (without mosquito growth regulator) - e.g. "YardCor" | 5. Directions for Use Heading |
| 2. Flea Claims - Three claims related to fleas | 6. Application Rate for fleas |
| 3. Ingredient statement & Net Wt. | 7. Mixing and Handling Instruction |
| 4. Precautionary Statements | 8. Directions for flea use |
| | 9. Storage and Disposal |
| | 10. Administrative information |

I've highlighted the new language related to the flea use and blocked the flea-use areas noted above on a label for reference.

To streamline the label, we changed the heading, "Instructions for Use" to "Mixing and Handling Instructions", a more appropriate heading. We have moved these instructions after the "Application Rate" section. We have deleted the old mixing and handling instructions section since it is a reiteration of the instructions already provided.

Chemigation instructions have been added to the Guide to Product Application in reference to the mosquito use. This is the standard referral statement from PR Notice 87-1. The flea-use product will be used only on residential yards; therefore, the chemigation statement will not be included in the flea-use label.

Best regards,

A handwritten signature in cursive script that reads "Kelly J. Parker".

Kelly J. Parker
Regulatory Specialist
800/527-0512

Study Title

Efficacy of Juvenoids in Soil-filled Peat Pots
for Outdoor Control of Cat Fleas

Data Requirement

N/A

Authors

Roger W. Meola
Bill Donahue

Study Completion Date

8 February 1990

Performing Laboratory

Texas A & M University
Department of Entomology
College Station, TX 77843

Project ID/Description

Compound Screening

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

3 April 1991

Edith Minor
Team Leader
Front End Processing Staff
Registration Support Branch
Registration Division (H7504C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: RF-379 Mosquito Growth Regulator SR-20
EPA Reg. No. 2724-446
Rejection of Application No. 143315 due to noncompliance with PR Notice
86-5

Dear Ms. Minor:


The application for the subject product is being resubmitted for review.

I have signed the statement of confidentiality claim.

The supplemental confidentiality claim does follow guidance from PR Notice
86-5 and can be found on page 3 of 6 of the confidential attachment.

The GLP statement, normally page 3, is not necessary for this type of
efficacy study. As defined in the Federal Register notice dated 17 August
1989, the final rule, §160.3 states that only product performance studies as
required by 40 CFR §158.640 are considered "studies". Further, §160.12 states
that "...data from a study to which this part applies shall include in the
application a true and correct statement, signed by the applicant, the
sponsor, and the study director...." Since the data submitted with this
application do not adhere to the definition of a study under GLP regulations,
the GLP statement is not required.

Best regards,


Kelly J. Parker
Regulatory Specialist
800/527-0512



ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of
Adult Floodwater Mosquitoes

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20%
INERT INGREDIENTS:..... 80%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

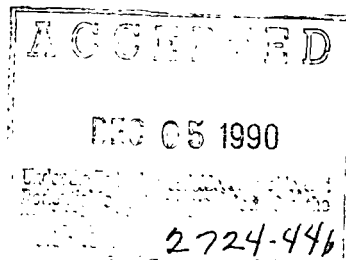
CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of Zoecon RF-379 Mosquito Growth Regulator SR-20, successful use requires familiarity with special techniques recommended for application timing and treatment evaluation. See Guide to Product Application or consult local Mosquito Abatement Agency.

4.43
NET CONTENTS:

0.5 0.5 0.5



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application -- Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Monocrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446
U.S. Pats. 3,904,662; 3,912,815
0590-B-0145E

EPA Est
c 1989 Zoecon
Made in U.S.A.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

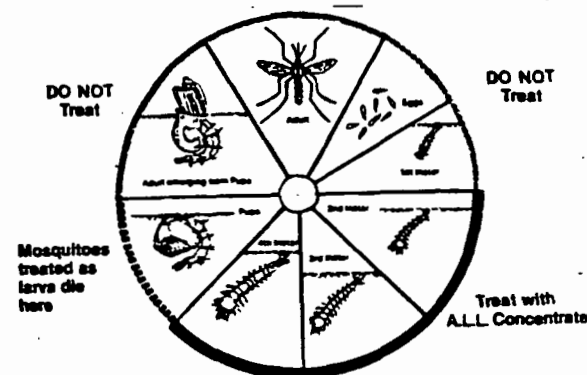
DO the following:

1. DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-379 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND:

- 99 lbs. washed, dry sand (20-45 mesh)
- 0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)
- 0.5 lbs. Hissil 233 (silicon dioxide)
- Small funnel
- Cement mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
4. Stop the mixer and add 0.5 pound of Hissil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hissil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hissil if it flows significantly slower and reduce the amount of Hissil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 5 1990

161
17 1

Ms. Kelly Parker
Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, TX 75234

Dear Ms. Parker:

Subject: Zoecon RF-379 Mosquito Growth Regulator SR-20
EPA Registration No. 2724-446
Your Submission Dated May 20, 1990

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy is enclosed for your records.

Sincerely yours,



Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)

Enclosure

57697:I:A-4:Nelson:C.Disk:KENCO:10/17/90:de:vo:ek:de

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of
Adult Floodwater Mosquitoes

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20%

INERT INGREDIENTS:..... 80%

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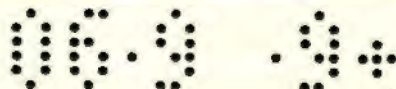
KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of Zoecon RF-379 Mosquito Growth Regulator SR-20, successful use requires familiarity with special techniques recommended for application timing and treatment evaluation. See Guide to Product Application or consult local Mosquito Abatement Agency.

NET CONTENTS:



ACCEPTED

DEC 05 1990

Under the Federal Insecticide, Fungicide, and
Rodenticide Act, as amended, for the
pesticide registered under
EPA Reg. No. 2724-446

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

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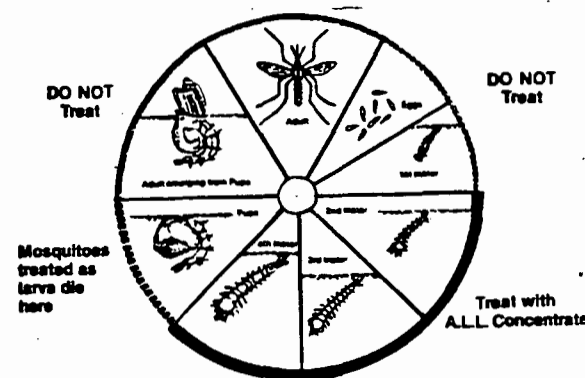
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LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



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- Small funnel
- Cement mixer

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APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

DP BARCODE: D155971

CASE: 028442
SUBMISSION: S277863

DATA PACKAGE RECORD
BEAN SHEET

DATE: 09/25/90
Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 160 NEW PRODUCT - ROUTINE "ME TOO"
CHEMICAL:
ID#: 002724-00446
COMPANY: 002724 ZOECON CORPORATION
PRODUCT MANAGER: 17 PHILLIP HUTTON 703-557-2690 ROOM: CM#2 207
PM TEAM REVIEWER: PATRICIA BAGLEY 703-557-4412 ROOM: CM#2 201
RECEIVED DATE: 10/31/89 DUE OUT DATE: / /

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 155971 EXPEDITE: N DATE SENT: 09/25/90 DATE RET.: / /
DP TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 11/09/90 CSF: N LABEL: Y
ASSIGNED TO DATE IN ASSIGNED TO DATE IN
DIV : RD / / REVR : MCLIFFOR / /
BRAN: RSB / / CONTR: / /
SECT: PCRS / /

* * * DATA PACKAGE REVIEW INSTRUCTIONS * * *

Label Review

THERE ARE NO ADDITIONAL DATA PACKAGE RECORDS



United States Environmental Protection Agency
Office of Pesticide Programs (TS-767)
Washington, DC 20460

Application for Pesticide:

☐ Registration
☒ Amendment

OPP Identifier Number

135468

Section I

1. Company/Product Number
2724-446

2. Date
May 30, 1990

3. Product Manager
Phil Hutton/17

4. Proposed Classification
☒ General ☐ Restricted

5. Name and Address of Applicant (Include ZIP Code)

Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

☐ Check if this is a new address

6. Product Name

Zoecon RF-379 Mosquito Growth Regulator SR-20

Section II - Amendment Information

1. Subject

☐ Resubmission in response to Agency letter ☒ Final printed label in response to Agency letter ☐ Other (explain below)

Date of Letter
5/22/90

Section III

1. Material This Product Will Be Packaged In

Child-Resistant Packaging ☐ Yes ☒ No

Unit Packaging ☐ Yes ☒ No

If "Yes,"

Unit package wgt No. per container

Water-Soluble Packaging ☐ Yes ☒ No

If "Yes,"

Package weight No. per container

2. Type of Container

☒ Metal

☒ Plastic

☐ Glass

☐ Paper

☐ Other (Specify)

3. Location of Net Contents Information

☒ Label ☐ Container

4. Size(s) of Retail Container

1 gallon to 50 gallons

5. Location of Label Directions

☒ On Label

☐ On material accompanying product

6. Manner in Which Label is Affixed To Product

☒ Lithograph ☐ Other (Specify)

☒ Paper glued

☒ Stenciled

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application).

Name

Kelly J. Parker

Title

Regulatory Specialist

Telephone No. (Include Area Code)

214/888-8726

6. Date Application Received (Stamped)

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature

Kelly J. Parker

3. Title

Regulatory Specialist

4. Typed Name

Kelly J. Parker

5. Date Signed

May 30, 1990

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

1. Offer to Pay Statement (EPA Form 8570-22, -23, or -24). (If not exempted by 40 CFR 162.9-1(b).)
2. Confidential Statement of Formula (EPA Form 8570-4).
3. Five copies of draft labeling.
4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in three copies. In order to facilitate review, each type of data submitted must be bound separately, and clearly identified on the front cover including the date submitted.

A copy of the application form and a copy of the label should be bound in each separate volume of the data.

All Data For Which Claims of Confidentiality Are Asserted Must Be Submitted, Bound Separately and Clearly Marked As Such

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

1. **Company/Product Number** - Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
2. **Date** - Fill in the appropriate date.
3. **Product Manager** - If known, fill in the name and number of the Product Manager.
4. **Proposed Classification** - Specify the proposed classification for this product.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

An applicant Not residing in the United States must have an authorized agent residing in the United States to act for

them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

1. **Subject of Amendment** - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
6. EPA Use Only.

TO PRODUCT MANAGER

DATE: 6-8-90

17

FAST - TRACK ACTION

This action has been determined to be a fast-track action by the feps and must be entered in the OLTS using one of the following codes:

- 160 - Application for "me-too" registration
- 170 - Application for registration - old chemical - "Me-too" with additional use.
- 300 - Amendment - label revision - administrative (no data required).
- 305 - Amendment - label revision - data required does not need HED/EFED review.
- 310 - Amendment - added "me-too" Use - no HED/EFED review needed.
- 345 - Formula change - no HED/EFED review required.

06/06/90

Product Name: ZOECON RP-379 MOSQUITO GROWTH REGULATOR SR-20
Company Name: ZOECON CORPORATION
Application No.: 135468
EPA Reg. No.: 2724-446
EPA Receipt Date: 06/06/90

Subject: Front End Screen for an Amendment

Dear Sir or Madam:

Your application for registration has been received by the Office of Pesticide Programs and has passed a preliminary screen for completeness. It will be placed in line for review to determine its acceptability. The application will be processed in chronological order of receipt.

Although the 1988 FIFRA amendments mandate EPA to review applications for expedited registration or amendments within 90 days, this turnaround time will not be met immediately due to the backlog of applications received before December 24, 1988. However, EPA is increasing human and automated resources and making necessary procedural changes in order to eliminate the backlog and to meet the 90-day response time as soon as possible.

If you have any questions, you may contact Phil Hutton, Product Manager 17, at (703)-557-2690.

Sincerely,

Edith Murre

Team Leader
Front End Processing Staff
Registration Support Branch
Registration Division (H7504C)

*H7504C
J. White
6-6-90*

PM # - 17

REG # - 2724-446

DATA ANALYST - Rogan

DATE PROCESSED - 6-8-90.

THIS JACKET HAS BEEN FOUND TO BE DEFICIENT BY SIG FOR THE FOLLOWING REASONS:

1. CURRENT ACCEPTED LABEL NOT STAMPED
2. CURRENT LABEL MISSING
3. CURRENT CSF MISSING
4. ACTIVE AND INERTS DO NOT = 100%
5. ADDITIONAL BRAND NAME (NO CODING REQ'D)
6. CURRENT INFORMATION ON FILE IS CORRECT (NO CHG REQ'D)
7. CSF/LABEL/JACKET INFO. IS INCONSISTENT
8. SAME REG-NR ASSIGNED TO 2 PMS OR PRODUCTS
9. REG-NR IS OR NEEDS TO BE CANCELLED AND/OR TRANSFERRED
10. ^{missing} IN CSF, REG-NR IS ~~CANCELLED~~ - NEED NEW REG. NR. FOR - 2724-442
11. SITE/PEST INFO. MISSING FROM LABEL
12. RETURNED UNPROCESSED PER PM TEAM MEMBER REQUEST
13. NO SIGNAL WORD
14. NO ACTIVE/INERT PERCENTAGES ON LABEL
15. OTHER - _____

PLEASE RESUBMIT THE ABOVE JACKET/S WHEN THE ABOVE DEFICIENCY/CIES HAVE BEEN CORRECTED TO:

SIG
ROOM 263
557 - 1176

YOUR COOPERATION IN RESOLVING THE DEFICIENCY/CIES IS GREATLY APPRECIATED.

US ENVIRONMENTAL PROTECTION AGENCY OFFICE OF PESTICIDES PROGRAMS REGISTRATION DIVISION (TS-767) WASHINGTON, DC 20460	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">EPA REGISTRATION NO. 2724-446</td> <td style="width: 50%; padding: 2px;">DATE OF ISSUANCE MAY 22 1990</td> </tr> <tr> <td colspan="2" style="padding: 2px;">TERM OF ISSUANCE</td> </tr> <tr> <td colspan="2" style="padding: 2px;">NAME OF PESTICIDE PRODUCT Zoecon RP-379 Mosquito Growth Regulator SR-20</td> </tr> </table>	EPA REGISTRATION NO. 2724-446	DATE OF ISSUANCE MAY 22 1990	TERM OF ISSUANCE		NAME OF PESTICIDE PRODUCT Zoecon RP-379 Mosquito Growth Regulator SR-20	
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TERM OF ISSUANCE							
NAME OF PESTICIDE PRODUCT Zoecon RP-379 Mosquito Growth Regulator SR-20							

NOTICE OF PESTICIDE: ☐ REGISTRATION ☐ REREGISTRATION

(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)

NAME AND ADDRESS OF REGISTRANT (Include ZIP code)

**Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234**

NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)C provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Add the phrase "EPA Registration No. 2724-446" to your label before you release the product for shipment.
3. Change the front panel statement from "Because of the unique mode of action of A.L.L. Concentrate, ..." to read as follows:

"Because of the unique mode of action of Zoecon RP-379 Mosquito Growth Regulator SR-20, ..."

☐ ATTACHMENT IS APPLICABLE

SIGNATURE OF APPROVING OFFICIAL See P. 2	DATE 5/22/90
--	------------------------

Bagley 5-22-90


- 2 -

4. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,



Phil Hutton
Product Manager (17)
Insecticide/Rodenticide Branch
Registration Division (H7505C)

Enclosure

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of
Adult Floodwater Mosquitoes

ACTIVE INGREDIENT:
(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20%
INERT INGREDIENTS..... 80%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of A.L.L.TM
Concentrate, successful use requires familiarity with
special techniques recommended for application timing
and treatment evaluation. See Guide to Product
Application or consult local Mosquito Abatement Agency.

NET CONTENTS:

0.0150 L

ACCEPTED
with COMMENTS
in EPA Letter Dated:

MAY 22 1990

Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.

2724-446

PORTED

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. **SHAKE WELL BEFORE USING.** Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application -- Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-
U.S. Pats. 3,904,662; 3,912,815
0189-A-0145E

EPA Est 55947-CA-1
c 1985 Zoecon
Made in U.S.A.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

DO the following:

1. DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-379 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND:

- 99 lbs. washed, dry sand (20-45 mesh)
- 0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)
- 0.5 lbs. Hisil 233 (silicon dioxide)
- Small funnel
- Cement mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
4. Stop the mixer and add 0.5 pound of Hisil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of
Adult Floodwater Mosquitoes

ACCEPTED
with COMMENTS
in EPA Letter Dated:

MAY 22 1990

ACTIVE INGREDIENT:
(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20%
INERT INGREDIENTS..... 80%

Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.

2724-446

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of A.L.L.™
Concentrate, successful use requires familiarity with
special techniques recommended for application timing
and treatment evaluation. See Guide to Product
Application or consult local Mosquito Abatement Agency.

NET CONTENTS:

00.10.01

me too
check
2724-393

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

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Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL -- Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

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U.S. Pats. 3,904,662; 3,912,815
0189-A:0145E

EPA Est 55947-CA-1
c 1985 Zoecon
Made in U.S.A.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

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Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

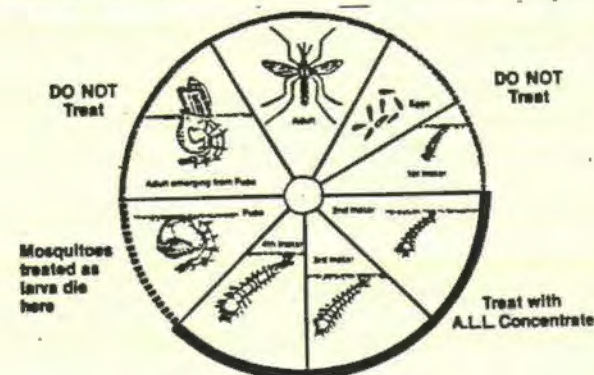
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3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae ~~after~~ ^{before} treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-379 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
4. DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND:

- 99 lbs. washed, dry sand (20-45 mesh)
- 0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)
- 0.5 lbs. Hissil 233 (silicon dioxide)
- Small funnel
- Cement mixer

1. Measure the time required for a level funnel full of sand to empty.
2. Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to an equal volume of water.)
3. Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
4. Stop the mixer and add 0.5 pound of Hissil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hissil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hissil if it flows significantly slower and reduce the amount of Hissil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of
Adult Floodwater Mosquitoes

ACTIVE INGREDIENT:
(S)-Methoprene [Isopropyl (2E,4E,7S)-
11-methoxy-3,7,11-trimethyl-2,4-
dodecadienoate]..... 20%
INERT INGREDIENTS..... 80%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of A.L.L.™
Concentrate, successful use requires familiarity with
special techniques recommended for application timing
and treatment evaluation. See Guide to Product
Application or consult local Mosquito Abatement Agency.

NET CONTENTS:

0.0125

ACCEPTED
with COMMENTS
in EPA Letter Dated:

MAY 22 1990

Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.

2724-446

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application -- Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL -- Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-
U.S. Pats. 3,904,662; 3,912,815
0189-A:0145E

EPA Est 55947-CA-1
c 1985 Zoecon
Made in U.S.A.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

DO the following:

1. DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
2. DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
3. DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
3. DO NOT think Zoecon RF-379 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
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5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hissil if it flows significantly slower and reduce the amount of Hissil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

PRODUCT CHEMISTRY CHECKLIST

Please provide the requested information for the following checked items:

1. ☐ Submit the product specific product chemistry and the data matrix for your product. Your product is not sufficiently similar to the product you referenced.
2. On the Confidential Statement of Formula (CSF) please provide the following:
 - ☐ a) Provide pH of product or pH at a specified water dilution.
 - ☐ b) density of product
 - ☐ c) flash point of product
 - *☐ d) flash point of product with the propellant. OR item # 7 on this page.
 - ☐ e) flame extension of product including flashbacks if noted
 - ☐ f) Provide the upper and lower Certified Limits based on the pure active ingredients rather than the technical or concentrate.
Note that the lower limit of the active must be the same as the label claim in pure active form.
 - ☐ g) Provide upper and lower Certified Limits of the individually added inerts.
 - ☐ h)
 - ☐ i)
3. ☐ Based on the current CSF dated 10/24/89 *is acceptable* your product will ~~not~~ meet the label claim for the active ingredient. ~~Please revise the label or the CSF so the information agrees.~~
4. ☐ Please provide the chemical identity of all components, MSDS and CAS #s of: (two copies reqd)
 - 1)
 - 2)
 - 3)The supplier may contact us directly referencing your file symbol/EPA Reg. # in their response.
For dyes, color index and CAS #s for all components are required. For perfumes and flavoring all chemical components by CAS #s and % in the mixture must be identified. Certify that flavors are of non-food type.
- ☐ Please update the label Storage and Disposal Statement per PR 83-3 or PR-84-1.
6. ☐ Add a footnote to the label ingredient statement indicating:
Contains aromatic petroleum distillates, xylene, xylene range aromatic solvent
7. ☐ Add the heading PHYSICAL OR CHEMICAL HAZARDS to the label and the appropriate statement. See 40 CFR 156.10
8. ☐ Since your data matrix does not give a dielectrical breakdown voltage, you must add the following to the use directions:
Do not use this product in or on electrical equipment due to the possibility of shock hazard.
9. ☐ Solvent used is not considered an active ingredient so either report it under inert ingredients on the label or provide the registration no. for the source product and justify its insecticidal properties.

(see back page)

CHEMISTRY CHECKLIST CONT'D

9. Data Matrix Requirements

- ☐ a) Statement of Composition - a complete description of the manufacturing/formulation process. Describe equipment used, mixing time, temperature etc.
- ☐ b) Discussion of Formation of [Unintentional] Ingredients - a brief description of impurities formed during the manufacturing/formulation process, in packaging, or during storage. If you do not expect any impurities during these stages, please so state.
- ☐ c) Certification of Limits - upper and lower limits of each active and individually added inert component. The lower limit for the actives, must be the same as the label claim in pure active ingredient form.
- ☐ d) Analytical Method - provide the methods used to analyze for the active ingredients or a full reference for a published method or MRID #.
- ☐ e) Color - in common terms.
- ☐ f) Physical State - e.g. solid, liquid, pressurized liquid, etc.
- ☐ g) Odor - in common terms.
- ☐ h) Density - e.g. lbs/gallon for liquids or lbs/cu. ft. for solids.
- ☐ i) pH - provide pH of product or pH of a specified water dilution.
- ☐ j) Oxidizing or Reducing - note these characteristics if any.
- * ☐ k) Flammability - flash point/flame extension.
- ☐ l) Explosibility - note these characteristics if any.
- ☐ m) Storage Stability - the formulated product must be analyzed for its active ingredient at time zero and during a year of storage. The storage should be in warehouse conditions of temperature and humidity and stored in similar containers you will be using in the trade.
Note: For the Storage Stability study you cannot reference the concentrate you are using to formulate your product.
- ☐ n) Viscosity - can be expressed in centipoise or centistokes.
- ☐ o) Miscibility - note these characteristics if product is an emulsifiable liquid and mixed with oil.
- ☐ p) Corrosion Characteristics - this information can be noted during the storage stability study.
- ☐ q) Dielectric Breakdown Voltage - for products used near electrical equipment.

The Registrant has stated EPA Reg No 2724-393 as a me too product since this product is almost similar to EPA Reg NO 2724-393. All the above Chemistry Data Matrix Requirements are not needed. This reference is acceptable.

CHEMISTRY CHECKLIST CONT'D

9. Data Matrix Requirements

- ☐ a) Statement of Composition - a complete description of the manufacturing/formulation process. Describe equipment used, mixing time, temperature etc.
- ☐ b) Discussion of Formation of [Unintentional] Ingredients - a brief description of impurities formed during the manufacturing/formulation process, in packaging, or during storage. If you do not expect any impurities during these stages, please so state.
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United States Environmental Protection Agency
Office of Pesticide Programs (TS-767)
Washington, DC 20460

EXPEDITE
Application for Pesticide:

☒ Registration
☐ Amendment

OPP Identifier Number

132862

Section I

1. Company/Product Number
2724-JUA

2. Date
10/24/89

3. Product Manager
Phil Hutton (17)

4. Proposed Classification
☒ General ☐ Restricted

5. Name and Address of Applicant (Include ZIP Code)

Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

☐ Check if this is a new address

6. Product Name

Zoecon RF-379 Mosquito Growth Regulator SR-20

Section II - Amendment Information

1. Subject

☐ Resubmission in response to Agency letter
☐ Final printed label in response to Agency letter
☐ Other (explain below)

Date of Letter

Formula is same as ALTOSID Larvicide Concentrate, EPA Reg. No. 2724-393
Label is same as ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392

Section III

1. Material This Product Will Be Packaged In

Child-Resistant Packaging

☐ Yes ☒ No

Unit Packaging

☐ Yes ☒ No

If "Yes,"

Unit package wgt No. per container

Water-Soluble Packaging

☐ Yes ☒ No

If "Yes,"

Package weight No. per container

2. Type of Container

☒ Metal
☒ Plastic
☐ Glass
☐ Paper
☐ Other (Specify)

3. Location of Net Contents Information

☒ Label ☐ Container

4. Size(s) of Retail Container

1 gallon to 50 gallons

5. Location of Label Directions

☒ On Label
☐ On material accompanying product

6. Manner in Which Label Is Affixed To Product

☒ Lithograph
☒ Paper glued
☒ Stenciled
☐ Other (Specify)

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application).

Name

Kelly J. Parker

Title

Regulatory Specialist

Telephone No. (Include Area Code)

214/888-8726

6. Date Application Received (Stamped)

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature

3. Title

Regulatory Specialist

4. Typed Name

Kelly J. Parker

5. Date Signed

10/24/89

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

1. Offer to Pay Statement (EPA Form 8570-22, -23, or -24). (If not exempted by 40 CFR 162.9-1(b).)
2. Confidential Statement of Formula (EPA Form 8570-4).
3. Five copies of draft labeling.
4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

1. **Company/Product Number** - Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
2. **Date** - Fill in the appropriate date.
3. **Product Manager** - If known, fill in the name and number of the Product Manager.
4. **Proposed Classification** - Specify the proposed classification for this product.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

1. **Subject of Amendment** - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
6. EPA Use Only.

Record Number _____

Reference Number _____

Input Date _____

CODING FORM FOR APPLICATIONS FOR REGISTRATION/AMENDMENTSFile Symbol/Reg. No. 2724-00A PM 17 8 Action Code _____10 Descriptor (Amend/Resubmissions only) _____5 Intrastate Call-in ☐ (Y) Yes ☐ (N) No 15 Child-resistant Packaging ☐ (C) Certification ☐ (S) Service Person20 Registration Type: ☐ (1) Conditional ☐ (2) Unconditional ☐ (R) Non-residential Use Only ☐ (N) Not-Applicable25 Proposed Classification: 30 Final Classification:☐ (R) Restricted ☐ (R) Restricted ☐ (G) General ☐ (N) Not Classified35 Date on Application: 04 EPA Received Date: 40 Date Received by PM
MO DAY YR MO DAY YR MO DAY YR
10 24 89 10 31 8980 Method of Support:☐ (1) Cite-All ☐ (6) Owner Submission ☐ (4) Not Applicable ☐ (7) Total Submission ☐ (5) Not Submitted ☐ (8) Selective Method

Reviewers Requested:

RD

PM

PL

CH

EF

DATE SENT DUE DATE DATE RETURNED

RESPONSE CODE RESPONSE DATE

108 Status: _____115 FINAL Response ACTION Code _____120 Response

MO DAY YR

75-DAY RESPONSE DUE DATE: ☐ (Y) Yes ☐ (N) No



United States Environmental Protection Agency
Washington, DC 20460

Certification with Respect to Citation of Data

Form Approved
OMB No. 2070-0060
Approval expires 9-30-90

Applicant's Name and Address

Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

EPA File Symbol/Registration Number

2724- JUA

Product Name

Zoecon RF-379 Mosquito Growth Regulator SR-20

Date of Application

10/24/89

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product or of any other product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application.

2. I certify that, for each study cited in support of this application for registration that is an exclusive use study, I am the original data submitter, or have obtained the written permission of the original data submitter to cite that study.

3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:

I am the original data submitter; or I have obtained the written permission of the original data submitter to cite that study; or

I have notified in writing the companies who have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act; and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: *(Check one)*

☒ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method). *(Also sign the General Offer to Pay Statement below.)*

☐ Those companies who have submitted the studies which I have cited (Selective method).

Signature

Kelly J. Parker

Name and Title

Kelly J. Parker
Regulatory Specialist

Date

10/24/89

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required by FIFRA sec. 3(c)(1)(D) and 3(c)(2)(D).

Signature

Kelly J. Parker

Name and Title

Kelly J. Parker
Regulatory Specialist

Date

10/24/89



Certification with Respect to Citation of Data

Form Approved
OMB No. 2070-0060
Approval expires 9-30-90

Applicant's Name and Address

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12200 Denton Drive
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EPA File Symbol/Registration Number

2724-00A

Product Name

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Date of Application

10/24/89

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product or of any other product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application.

2. I certify that, for each study cited in support of this application for registration that is an exclusive use study, I am the original data submitter, or have obtained the written permission of the original data submitter to cite that study.

3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:

I am the original data submitter; or I have obtained the written permission of the original data submitter to cite that study; or

I have notified in writing the companies who have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act; and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: *(Check one)*

☒ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method). *(Also sign the General Offer to Pay Statement below.)*

☐ Those companies who have submitted the studies which I have cited (Selective method).

Signature

Kelly J. Parker

Name and Title

Kelly J. Parker
Regulatory Specialist

Date

10/24/89

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required by FIFRA sec. 3(c)(1)(D) and 3(c)(2)(D).

Signature

Kelly J. Parker

Name and Title

Kelly J. Parker
Regulatory Specialist

Date

10/24/89

11/16/89

Product Name: ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20
Company Name: ZOECON CORPORATION
Application No.: 132862 -
EPA File Symbol: 2724-UUA
EPA Receipt Date: 10/31/89

Subject: Front End Screen for a 'Me-Too' Registration

Dear Sir or Madam:

Your application for registration has been received by the Office of Pesticide Programs and has passed a preliminary screen for completeness. It will be placed in line for review to determine its acceptability. The application will be processed in chronological order of receipt.

Although the 1988 FIFRA amendments mandate EPA to review applications for expedited registration or amendments within 90 days, this turnaround time will not be met immediately due to the backlog of applications received before December 24, 1988. However, EPA is increasing human and automated resources and making necessary procedural changes in order to eliminate the backlog and to meet the 90-day response time as soon as possible.

If you have any questions, you may contact Phil Hutton, Product Manager 17, at (703)-557-2690.

Sincerely,



Team Leader
Front End Processing Staff
Registration Support Branch
Registration Division (H7504C)

H7504C

F. Hutton

11-16-89



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

November 21, 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

PRODUCT NAME: ZOE RF-379 MOSQUITO GROWTH REGULATOR SR-20
COMPANY NAME: ZOECON CORPORATION
APPLICATION NO: 132862
EPA REG. NO: 2724-UUA
EPA RECEIPT DATE: 10/31/89

SUBJECT: "Me-too" Registration

TO: P. Hutton, 17

This application has completed the Front End Review.

Sincerely,

F. Wrice

Frances Wrice

Front End Processing Staff

ZOECON CORPORATION

A SANDOZ Company

12005 Ford Rd. • Suite 800, L B 44
Dallas, Texas 75234 • Phone (214) 243-2321

To:

Kelly J. Parker
Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

ZOECON CORPORATION

A SANDOZ Company

12005 Ford Rd. • Suite 800, L B 44
Dallas, Texas 75234 • Phone (214) 243-2321

To:

Kelly J. Parker
Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

Zoecon Corporation

A SANDOZ Company

12005 Ford Road, Suite 800, LB 44, Dallas, Texas 75234-7296

(214) 243-2321

October 24, 1989

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch (H7505C)
Office of Pesticide Programs
Document Processing Desk (APPL)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator SR-20
Application for New Registration
Cite-All Method/Expedited Review

Dear Mr. Hutton:

The proposed product is identical to existing registered products. It is my understanding that under the expedited registration amendment to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA 1988) this application for a "similar" product will be granted (or denied) within 90 days.

The Zoecon RF-379 product formula is exactly the same as for ALTOSID Larvicide Concentrate, EPA Reg. No. 2724-393. The label is the same as that on file for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392.

As noted above, the product formula for Zoecon RF-379 is equivalent to the ALTOSID Larvicide Concentrate, a manufacturing-use product that is diluted to formulate the Liquid Larvicide product. The Concentrate contains 20% (S)-methoprene, Liquid Larvicide contains 5% (S)-methoprene.

We would like to provide the 20% (S)-methoprene product with an end-use label. This end-use product will be used in the same manner and at the same use-rate as the current 5% Liquid Larvicide product.

Since Zoecon RF-379 is four times as concentrated as the Liquid Larvicide, four times less is required to achieve the same application rate. The proposed label is the same as the label approved by the Agency for the Liquid Larvicide on July 26, 1985 with the appropriate adjustments in the amount of concentrate required, as just described.

Zoecon RF-379 contains only food-cleared inerts, and no inerts of concern. Also, as noted above, the formula is essentially the same, and the application rate is exactly the same as for the Liquid Larvicide. Therefore, the exemptions from the requirement of a tolerance granted in connection with the registration of ALTOSID Liquid Larvicide are applicable to the proposed registration.

Best regards,

Kelly J. Parker

Kelly J. Parker
Regulatory Specialist
800/527-0512

KJP:sw
Enclosures

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